



Columbia University  
Bulletin of Information

BARNARD COLLEGE

ANNOUNCEMENT

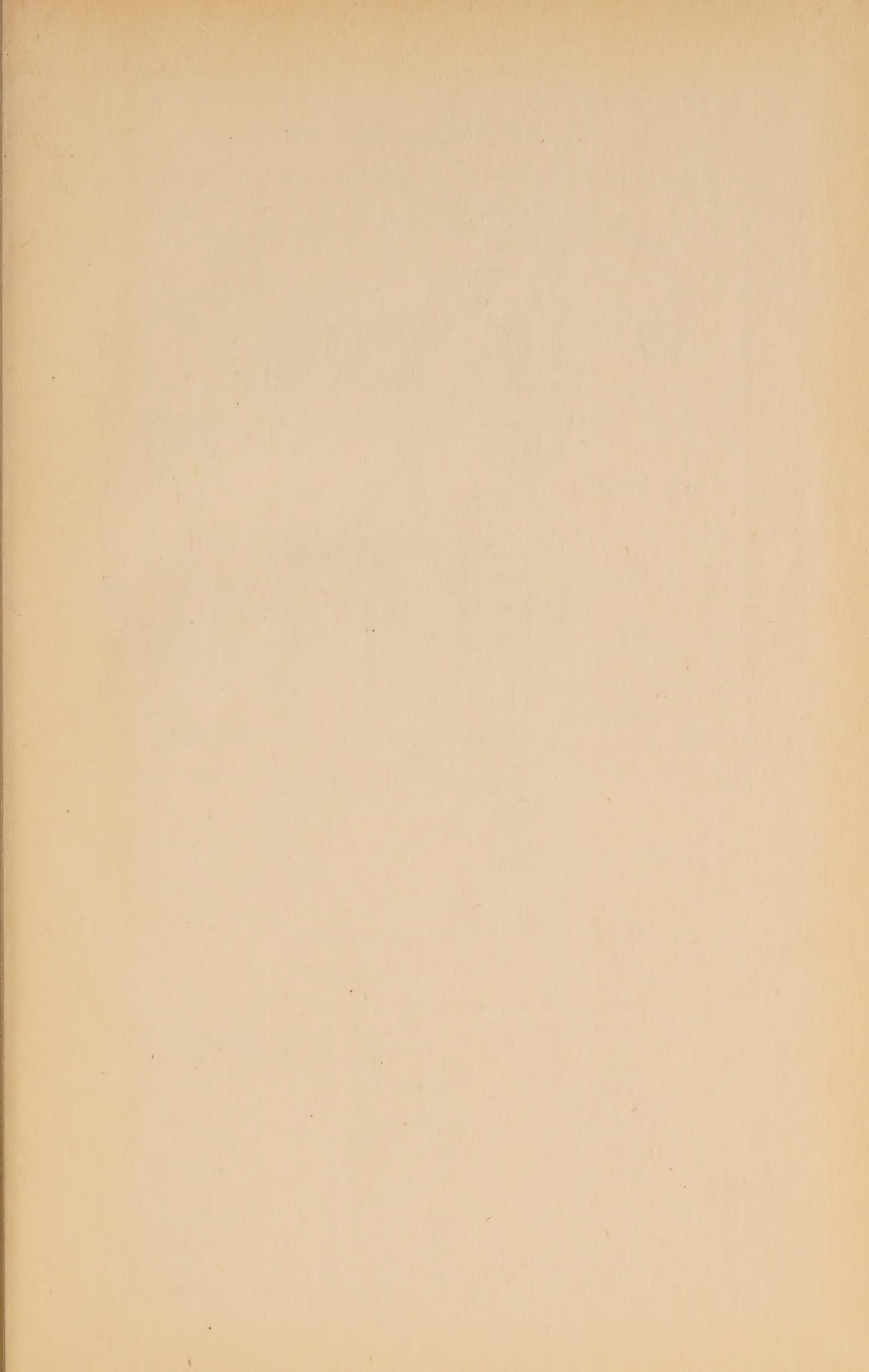
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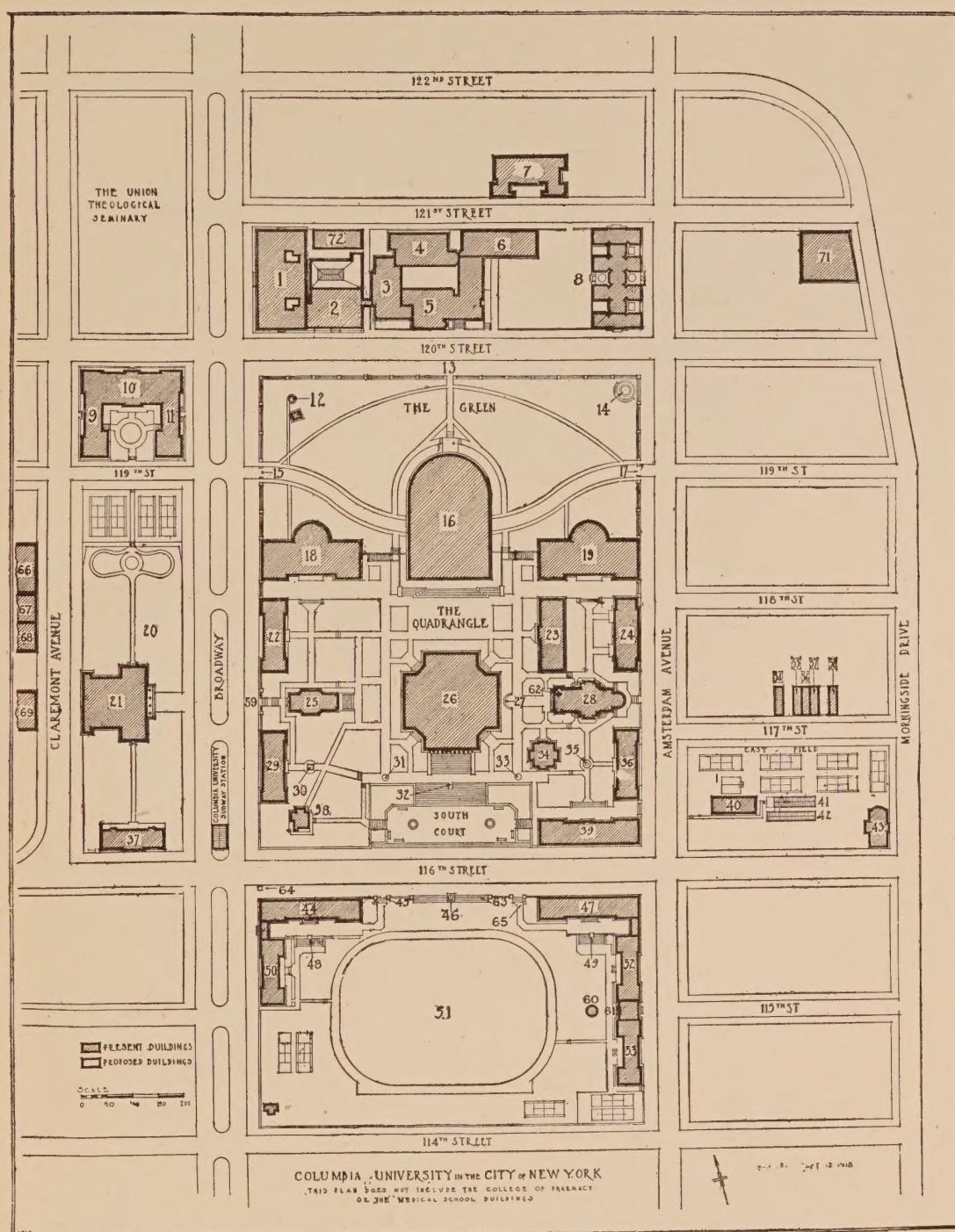
1921-22

BARNARD COLLEGE  
ARCHIVES



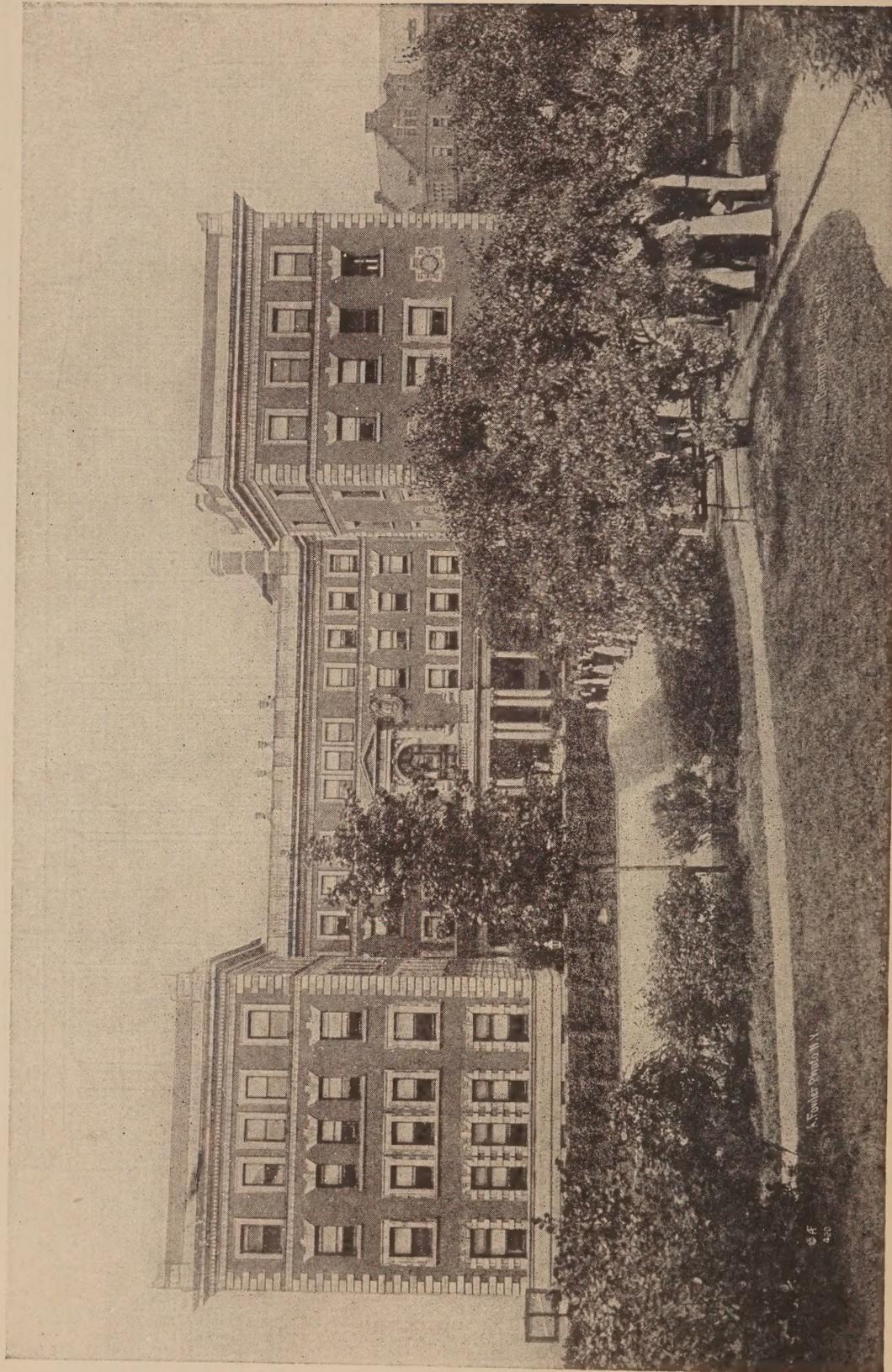


INFORMATION  
IN REGARD TO THE BUILDINGS AND GROUNDS OF  
COLUMBIA UNIVERSITY



Teachers College  
 1. Horace Mann School  
 2. Thompson Memorial Bldg.  
 3. Milbank Memorial Chapel  
 4. Macy  
 5. Main Building  
 6. Household Arts  
 7. Bancroft  
 8. Whittier  
 Barnard College  
 9. Fiske  
 10. Milbank  
 11. Brinckerhoff  
 20. Milbank Quadrangle  
 21. Students' Hall  
 37. Brooks Hall  
 68. John Jay  
 Columbia University  
 12. Wilde Observatory  
 13. Class of 1882 Gates  
 14. Statue of the great God Pan  
 15. Mapes Gates  
 16. University  
 17. Class of 1888 Gate  
 18. Havemeyer  
 19. Schermerhorn

22. Engineering  
 23. Avery  
 24. Fayerweather  
 25. Earl  
 26. Library  
 27. Class of 1886 Exedra  
 28. St. Paul's Chapel  
 29. Mines  
 30. Meunier's Hammerman  
 1889 Mines Class Gift  
 31. Lafayette Post Flag Staff  
 32. Statue of Alma Mater  
 33. Class of 1881 Flag Staff  
 34. East  
 35. Class of 1887 Well Head  
 36. Philosophy  
 38. Faculty Club  
 39. Kent  
 40. Crocker Research  
 41. Botany Greenhouse  
 42. Agriculture Greenhouse  
 43. President's House  
 44. Journalism  
 45. Classes of 1884 and 1890  
 Tablet  
 46. Class of 1885 Sun Dial  
 47. Hamilton  
 48. Jefferson Statue  
 49. Hamilton Statue  
 50. Furnald  
 51. South Field  
 52. Hartley  
 53. Livingston  
 54. Columbia House  
 55. Dean Hawkes  
 56. Chaplain Knox  
 57. Maison Francaise  
 58. Carnegie Endowment  
 59. Class of 1891 Gates  
 60. Van Amringe Memorial  
 61. 1906 Clock  
 62. Class of 1893 Chapel Bell  
 63. Rives Memorial Steps  
 64. Class of 1890 Pylon  
 65. John Purroy Mitchell  
 Memorial  
 66. De Witt Clinton  
 67. Morris  
 69. Tompkins  
 71. Seth Low  
 72. Annex



FISKE HALL

MILBANK HALL

BRINCKERHOFF HALL



Columbia University  
Bulletin of Information

BARNARD COLLEGE

ANNOUNCEMENT

1921-1922

1921

Charter of  
Barnard College  
to M. J. M. M.



## BARNARD COLLEGE

### FORM OF BEQUEST

To Barnard College I give and bequeath the sum of \$ for  
the uses and purposes of said Corporation.

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1921

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<sup>1</sup>Absent on leave, Spring Session.

<sup>2</sup>Absent on leave, 1921-22.

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<sup>1</sup> Absent on leave, 1921-22.

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WILLYSTINE GOODSELL, Ph.D. . . . .	<i>Assistant Professor of Education</i>
WENDELL T. BUSH, Ph.D. . . . .	<i>Associate Professor of Philosophy</i>
DINO BIGONGIARI, A.B. . . . .	<i>Assistant Professor of Italian</i>
ERNEST H. WRIGHT, Ph.D. . . . .	<i>Associate Professor of English</i>
MARY THEODORA WHITLEY, Ph.D.	<i>Assistant Professor of Educational Psychology</i>
DEAN S. FANSLER, Ph.D. . . . .	<i>Assistant Professor of English</i>
DIXON R. FOX, Ph.D. . . . .	<i>Assistant Professor of History</i>
WALLACE E. CALDWELL, Ph.D. . . . .	<i>Instructor in History</i>
MARTIN ANDREW NORDGAARD, A.M. . . . .	<i>Lecturer in Mathematics</i>

#### Barnard Representatives on the University Council

The DEAN (*ex-officio*), the PROVOST (*ex-officio*), and Professor REIMER (serving until June, 1921).

#### Barnard Representatives on the University Committee on Admissions

Professor JONES, *chairman*, and the DEAN (*ex-officio*).

MEMBERS OF BARNARD SUB-COMMITTEE: Professors BRAUN and MALTBY, and Miss LATHAM.

## Standing Committees of the Faculty

COMMITTEE ON INSTRUCTION: The PROVOST, *chairman*, Professors RICHARDS, MONTAGUE, VAN HOOK, BALDWIN, MULLER, KELLER, HUTCHINSON, MULLINS, and the DEAN (*ex-officio*).

COMMITTEE ON SCHOLARSHIPS: MISS GOODALE, *chairman*, MRS. LOWTHER and MRS. COUTANT, and the DEAN and the PROVOST (*ex-officio*).

COMMITTEE ON HONORS: Professors KELLER, *chairman*, HALLER and OGBURN, and the DEAN and the PROVOST (*ex-officio*).

COMMITTEE ON STUDENT AFFAIRS: Professors OGILVIE, *chairman*, MONTAGUE, HIRST, and MULLINS, Dr. LEduc, and the DEAN and the PROVOST (*ex-officio*).

COMMITTEE ON ADVICE TO NEW STUDENTS: Professors HIRST, *chairman*, and GREGORY, Miss LATHAM, Dr. LEduc, MRS. BAKER, and the DEAN and the PROVOST (*ex-officio*).

COMMITTEE ON THE SCHEDULE OF HOURS: MISS LANGFORD, *chairman*, Professor HOWARD and Dr. LAMSON, and the DEAN and the PROVOST (*ex-officio*).

COMMITTEE ON TRANSFERS (to be elected).

COMMITTEE ON UNIVERSITY UNDERGRADUATES (to be elected).

## Officers of Administration

N. W. LIGGETT, A.B.	• . . . .	Bursar
ANNA E. H. MEYER, A.B.	• . . . .	Registrar
KATHARINE S. DOTY, A.M.	• . . . .	Secretary
BERTHA L. ROCKWELL	• . . . .	Librarian of Barnard College
HENRY A. GRIFFIN, M.D.	• . . . .	Comptroller of Barnard College
MABEL FOOTE WEEKS, A.B.	• . . . .	Mistress of Brooks Hall
HELEN P. ABBOTT, A.B.	• . . . .	Director of John Jay Hall
HELEN CARROLL	• . . . .	Secretary of Residence Halls
	• . . . .	Secretary of Students Hall
	• . . . .	Director of Religious and Social Work
GULIELMA F. ALSOP, M.D.	• . . . .	College Physician
HARRIET JAMESON	• . . . .	Director of House and Commons
FANNY AURILL BISHOP, A.M.	• . . . .	Secretary to the Dean
MARY V. LIBBY, A.B.	• . . . .	Assistant to the Dean
ELEANORA B. HECK	• . . . .	Secretary to the Provost
MARTHA H. MILLER, A.B.	• . . . .	Assistant to the Secretary
A. MILDRED KERNER, A.B.	• . . . .	Assistant to the Secretary
MARJORIE H. SALMON	• . . . .	Assistant to the Bursar
BEATRICE WHYTE, A.B.	• . . . .	Assistant to the Bursar
HELEN M. BISHOP, A.B.	• . . . .	Assistant to the Registrar
MARIE BERNHOLZ, A.B.	• . . . .	Secretary to the Department of Physical Education
WILLIAM H. CARPENTER, Ph.D.	• . . . .	Acting Librarian of the University
FREDERICK A. GOETZE, M.Sc.	• . . . .	Comptroller of the University
REV. RAYMOND C. KNOX, S.T.D.	• . . . .	Chaplain of the University
WILLIAM H. McCASTLINE, M.D.	• . . . .	University Medical Officer

## Barnard College

### GENERAL STATEMENT

**Columbia University.**—Columbia University was founded in 1754 as Kings College by royal grant of George II, King of England, "for the Instruction of youth in the Learned Languages, and the Liberal Arts and Sciences." The Revolutionary War interrupted its active work; but in 1784 it was reopened as Columbia College. In 1912, the corporate title was changed to Columbia University.

The University at the present time consists of Columbia College, the undergraduate college of liberal arts for men, which offers a program of studies leading to the degree of Bachelor of Arts; the School of Law (not open to women), with courses leading to the degrees of Bachelor and Master of Laws; the College of Physicians and Surgeons, with courses leading to the degrees of Bachelor of Science and Doctor of Medicine; the Schools of Mines, Engineering, and Chemistry (not open to women), with courses leading to the several engineering degrees, and the degree of Master of Science; the School of Architecture, with courses leading to the degrees of Bachelor of Architecture and Master of Science; the School of Journalism, with courses leading to the degrees of Bachelor of Literature and Master of Science; the School of Business, with courses leading to the degrees of Bachelor and Master of Science; the School of Dentistry, with courses leading to the degrees of Bachelor of Science and Doctor of Dental Surgery; the non-professional graduate Faculties of Political Science, Philosophy, and Pure Science, with courses leading to the degrees of Master of Arts and Doctor of Philosophy. In addition to these Schools and Faculties, the University includes the independent corporations of Barnard College, the undergraduate college for women, with a course leading to the degree of Bachelor of Arts; Teachers College, including the Faculties of Education and Practical Arts, with courses leading to the degrees of Bachelor of Science, Master of Arts, and Master of Science; and the New York College of Pharmacy, with courses leading to the degrees of Pharmaceutical Chemist, Bachelor of Science and Doctor of Pharmacy.

**Founding of Barnard College.**—Barnard is the undergraduate college for women of Columbia University. In 1889 a group of men and women who wished to provide for women in New York City a college education fully equal to that offered to men succeeded in obtaining the sanction of the Trustees of Columbia for the establishment of an affiliated woman's college. A charter was granted by the State of New York, and promises of subscriptions for the support of the college during the first four years of its existence were

secured. Because President Frederick A. P. Barnard of Columbia College had for many years been an ardent advocate of the admission of women to Columbia, the founders of the new college gave it his name. With seven instructors selected from the teaching staff of Columbia and with twenty-six students, Barnard opened in the fall of 1889 in a rented house at 343 Madison Avenue.

**Relation to the University.**—In 1900, when the growth of the College had made inappropriate the original informal arrangement for instruction, an agreement was made between the Trustees of Columbia College and of Barnard College by which Barnard was incorporated in the educational system of the University. By the provisions of this agreement, the President of the University is *ex-officio* President of Barnard College. Barnard professors are appointed by the University on the nomination of the Dean with the approval of the President and the Trustees, and rank as professors of the University; in exchange for instruction given by them at Columbia, certain Columbia instructors give courses at Barnard. The graduates of Barnard receive their degrees from Columbia, and these degrees are maintained as of equal value with corresponding degrees conferred upon the graduates of Columbia College. The University library is open to women on the same terms as to men. Various opportunities in other schools of the University have also, through the relation of Barnard College to Columbia, been opened to Barnard students who wish to avail themselves of the advantage of professional training. On the other hand, Barnard has its separate corporate and financial organization, with its own Board of Trustees. It retains its own internal administration, conducted by the Dean and the Provost, who are appointed by the President with the advice and consent of the Trustees of Barnard. Its courses are determined and administered by its own Faculty, consisting of all professors who give instruction at Barnard.

**Buildings and Grounds.**—Since 1897 Barnard has occupied the land on Broadway between 119th and 120th Streets, just west of the main buildings of the University. In 1903, Milbank Quadrangle, extending from 119th to 116th Streets, was added through the gift of Mrs. A. A. Anderson. Milbank Hall and Brinckerhoff Hall, erected in 1896, the gifts respectively of Mrs. Anderson and Mrs. Van Wyck Brinckerhoff, and Fiske Hall, erected in 1898, the gift of Mrs. Josiah M. Fiske, are three adjoining buildings on 119th Street; they contain the administrative offices, lecture rooms, and laboratories. Brooks Hall, at the southern end of the Quadrangle on 116th Street, erected in 1907, is the main hall of residence. The College also uses for residence purposes a part of John Jay Hall, on Claremont Avenue overlooking the campus, which is the property of Columbia University. Students Hall, given by Mr. Jacob H. Schiff and erected in 1917, is on Milbank Quadrangle near 117th Street; it contains the gymnasium, swimming-pool, lunch-room, reading-room, doctor's and nurses' offices, and rooms for student organizations.

**Financial Statement.**—The College owns equipment, buildings, and grounds of an estimated value of over \$2,500,000, and holds productive funds providing a net income of about \$151,000.

**Course of Study.**—Barnard College offers a liberal course of undergraduate instruction for women, of four years' duration, leading to the degree of Bachelor of Arts.

Students who wish two years only of collegiate work, in preparation for professional schools, may enter under the same conditions as those intending to complete the requirements for the Bachelor of Arts degree, and take, during the freshman and sophomore years, a program modified to meet the requirements of the professional school to which the transfer is to be made.

Under certain circumstances, Barnard students in the Bachelor of Arts course may, after three full years of work at Barnard College, receive permission to substitute the first year of an approved professional school for the senior year at college, and still obtain the Bachelor of Arts degree.

**Academic Discipline.**—The admission, continuance upon the rolls, and graduation of any student is subject to the full disciplinary power of the University authorities, as prescribed by the statutes of the University.

The College makes all possible provision for safeguarding the health of its students and it reserves the right to require the withdrawal of any student whose health, in the opinion of the College Physician, does not warrant her continuing her college course.

**Residence.**—All students not residing with their parents are required to live in Brooks Hall or John Jay Hall unless for reasons of weight they receive from the Dean special permission to live elsewhere.

## ADMISSION

**To Columbia University in General.**—A student accepted and registered by the proper authorities as having fulfilled the preliminary qualifications for candidacy for a degree, certificate of proficiency, or diploma, is enrolled as a matriculated student of the University. A period of regular attendance upon all stated academic exercises amounting to at least one academic year must be completed by every candidate for a degree.

A student not enrolled as a matriculated student may enter the University as a non-matriculated student, permitted to attend such courses of instruction as he or she may be qualified to take, but is not a candidate for a degree, certificate of proficiency, or diploma. Such students are expected to conform to the same standards of attendance and scholarship as are required of matriculated students. Non-matriculated students may receive a formal statement of the satisfactory completion of any course. (See p. 29.)

Admission to the several schools and colleges of Columbia University presupposes certain educational qualifications, but the possession of these qualifications does not entitle a candidate to admission unless his or her character and personality are acceptable to the University and unless he or she is physically fit to do the work which he or she desires to undertake. Satisfaction of the minimum requirements for admission to a school does not insure admission, particularly if the school be crowded.

**To Barnard College in Particular.**—Admission as a matriculated student to Barnard College is obtained only by examination, except that in

suitable cases the certified credentials of degree-granting institutions may be accepted for the subjects or parts of subjects which they cover.

Except for reasons of weight, candidates for admission to the freshman class must be at least fifteen years of age at the time of matriculation; candidates for admission to advanced standing must be correspondingly older. Every candidate must, before admission, present a certificate of good moral character from her last teacher, or from some properly qualified citizen. Students from other colleges or universities must present certificates of honorable dismissal.

Information regarding admission may be obtained in person, or by mail or telephone, from the Secretary of Barnard College.

### ADMISSION TO THE FRESHMAN CLASS

In order to enter the freshman class, a candidate must satisfy the College as to

1. Adequate preparation in the subjects required for admission (p. 18).
2. The possession of the qualities of mind and character deemed requisite for the most profitable pursuit of a college course.
3. Sound health.

It should be clearly understood that the satisfaction of any one or two of these requirements alone does not entitle the candidate to admission. Evidence on all of these points is considered by the Committee on Admissions in its selection from among the candidates of those best fitted for a college course.

**1. Examination and School Record.**—Evidence of adequate preparation in the subjects required for admission must be: examination (Old or New Plan, see p. 19) and school record.

The following examinations may be offered in partial fulfilment of the requirements for admission: those given by the College Entrance Examination Board (p. 20), by Columbia University (p. 20), and, under certain conditions, those given by the Education Department of the State of New York or by other colleges (see p. 25). *Precedence is given to candidates using the examinations of the College Entrance Examination Board and Columbia University.*

The results of a candidate's examination may stand to her credit for twenty-nine months but no longer.

She may not present herself at more than four series of examinations except by special permission of the Committee on Admissions.

In making application for examination a candidate must file with the Secretary of Barnard College, for the use of the Committee on Admissions, a statement from the principal of her school or from her last instructor indicating the extent and character of her preparation in each subject in which she applies for examination. The Committee on Admissions may withhold credit when this requirement is not met, and will give weight, in estimating the results of the candidate's entrance examinations, to the record of her school performance. Blanks for school records may be obtained from the Secretary.

**2. Certificate of Character.**—Evidence of the possession of the requisite moral and personal qualities may be a confidential estimate of character and personality signed by an authorized representative of the candidate's former school testifying to the candidate's possession of a good moral character and of qualities which promise future usefulness of a high order. This estimate should be full and specific. It may be supplemented by letters from teachers and other responsible persons. All such certificates and letters should be sent by the writers directly to the Secretary.

**3. Health.**—Evidence of sound health may be an acceptable certificate from the candidate's family physician or from the College Physician. In case of doubt an examination by the College Physician will be required. The proper blanks may be obtained from the Secretary of Barnard College.

**Optional Supplementary Psychological Examination.**—A candidate who so desires may supplement the regular entrance examinations by a psychological examination, the result of which will be considered with her other records. (See p. 22.)

**Preliminary Application for Admission.**—Each student who plans to enter the College should file a preliminary application for admission with the Secretary at as early a date as possible. Barnard College is finding it necessary to limit the number of students admitted. It may be expected, therefore, that the requirements for admission will be administered with increasing strictness. Other things being equal, early applications will receive the preference.

### SUBJECTS REQUIRED FOR ADMISSION

The requirement for admission to the freshman class is proficiency in fifteen units of secondary school subjects, of which some are prescribed and the remainder elective, as specified below. The unit ordinarily implies the study of a subject for a time equivalent to five periods a week for one year.

Candidates must offer:

	COUNTING IN UNITS
<sup>1</sup> English, elementary (page 32) . . . . .	3
Mathematics, elementary (page 42) . . . . .	3
Foreign languages, of which at least 3 must be in one language .	5
Elective subjects to be selected from those accepted for admission, as listed below . . . . .	4
	<hr/> 15

### Elective Subjects

Candidates may offer any of the following subjects, not included among their prescribed subjects, without other restrictions than that to offer an intermediate or advanced subject will involve offering, either at the same time or earlier, the corresponding elementary subject:

<sup>1</sup> The ordinary four-year secondary school course in English counts as three units.

COUNTING  
IN UNITS

<sup>1</sup> Botany (page 30) . . . . .	1
Chemistry (page 31) . . . . .	1
Drawing (page 32) . . . . .	1
French, elementary (page 34) . . . . .	2
French, intermediate (page 35) . . . . .	1
French, advanced (page 36) . . . . .	1
German, elementary (page 36) . . . . .	2
German, intermediate (page 38) . . . . .	1
German, advanced (page 39) . . . . .	1
<sup>1</sup> Greek, elementary (page 39) . . . . .	2 or 3
History, elementary (page 40) . . . . .	1, 2, 3, or 4
<sup>2</sup> Italian (page 40) . . . . .	2
Latin, elementary (page 41) . . . . .	2, 3, or 4
Mathematics, advanced (College) (page 42) . . . . .	$\frac{1}{2}$ , 1, or $1\frac{1}{2}$
<sup>2</sup> Musical Appreciation or Harmony (page 43) . . . . .	1
Physics (page 44) . . . . .	1
Physiography (page 44) . . . . .	1
Spanish, elementary (page 44) . . . . .	2
Spanish, intermediate (page 45) . . . . .	1
<sup>1</sup> Zoölogy (page 46) . . . . .	1

ENTRANCE EXAMINATIONS<sup>3</sup>

There are two plans of admission to Barnard College.

**Old Plan.**—Under this plan a candidate must present herself for examination in all of the fifteen units which she offers for admission.

**New Plan.**—By this alternative method, a candidate who completes with an acceptable degree of proficiency a satisfactory school course may receive permission to satisfy the examination requirements for admission by passing 'comprehensive' entrance examinations in four subjects. No change is made in the content of the requirements; the subjects to be covered by the school record of preparation must include the fifteen units regularly required for admission.

The subjects of the four comprehensive examinations to be taken must be as follows, unless for reasons of weight the Committee on Admissions allows some substitution for 1 or 3:

1. English.
2. A foreign language.
3. Mathematics.
4. A fourth subject, designated by the applicant from the subjects ac-

<sup>1</sup>An examination in this subject will be given in June and September, but not in January.

<sup>2</sup>An examination in this subject will be given in September, but not in June or January.

<sup>3</sup>Candidates who find that examinations are fixed for days set apart for religious purposes by the church to which they belong, and who are prevented by conscientious scruples from attending such examinations, are requested to make application to the Committee on Admissions through the Registrar of Barnard College for equitable relief. It should be noted, however, that in case alternative opportunities for taking a given examination are statedly offered, as for instance the January, June, and September entrance examinations, such students are expected to present themselves on the day which is not set apart as a holy day.

cepted for entrance. This choice will be subject to the approval of the Committee on Admissions, which may at its discretion substitute another subject.

These four examinations must be taken at one time. Comprehensive examinations (see page 47) are held by the College Entrance Examination Board in June, and by Columbia University in September but *not* in January.

At least two examinations must cover more than two units each.

In each subject chosen for examination, the comprehensive examination covering all the units offered by the candidate for admission must be taken.

Applicants who desire to use the New Plan of admission must furnish school reports covering the entire record of subjects and grades for four years previous to college entrance and a confidential estimate of character, personality, and promise of usefulness from the school principal. These should be sent to the Secretary of the College, if possible before February 15 of the year in which the examinations are to be taken. The Committee on Admissions must give its permission, based on these reports, before the applicant may take the examinations.

The student, if admitted, will be admitted without conditions. If she fails of admission she will not be considered for admission again under the New Plan until after the interval of one academic year. She may, however, present herself at the next series of examinations as a candidate for admission under the Old Plan, offering examinations in all of the fifteen units.

A candidate who wishes to enter by the New Plan may, if she desires, test herself by taking preliminary examinations—not to be credited toward admission—before she presents herself for the four comprehensive examinations which she plans to count.

**Time.**—Examinations for admission to Barnard College are held each year in January, June, and September, and, under certain circumstances, in May. (*Comprehensive examinations, except in foreign languages, in June and September only.*) The January examinations are intended only as final examinations, for candidates applying for admission in February. In 1921 they will be held June 20-25 and September 19-24, and in 1922, January 19-25 and June 19-24.

**Place.**—In June the entrance examinations will be conducted by the College Entrance Examination Board, of which Columbia University is a member, at Barnard College and at a large number of widely distributed points. A list of these points will be published by the Board (431 West 117th Street, New York, N. Y.) about March 1. Requests that the examinations be held at particular points, to receive proper consideration, should be transmitted to the Secretary of the Board not later than February 1.

In September, 1921, and January, 1922, the entrance examinations of Barnard College will be conducted by the Columbia University Committee on Admissions, and will be held only at the College.

**Application for Examination.**—Every candidate for examination is required to file an application in advance for *each series of examinations* which she wishes to take. For the examinations in June, 1921, the application must be filed with the Secretary of the College Entrance Examination Board, 431 West 117th Street, New York, N. Y. Applications for examina-

tion in the United States east of the Mississippi River or on the Mississippi River, must be filed on or before May 30. Applications for examination elsewhere in the United States or in Canada must be filed on or before May 23, and applications for examination at points outside of the United States and Canada must be filed on or before May 9. Requests for blank forms of application should be addressed to the Secretary of the Board.

When the candidate has failed to obtain the required blank form of application for examination the usual examination fee will be accepted if the fee arrives not later than the specified date accompanied by a memorandum containing the name and address of the candidate, the examination center at which she wishes to present herself, and a list of all the subjects in which she may have occasion to take the Board's examinations.

A candidate for a competitive scholarship to be awarded on the basis of the June examinations must, in her application to the Secretary of the College Entrance Examination Board, mention the scholarship for which she is competing.

For the examinations in September, 1921, and January, 1922, applications must be filed with the Registrar of Barnard College on or before September 12 and January 12, respectively. Requests for blank forms of application should be addressed to the Secretary of Barnard College.

*Candidates who wish to use the New Plan of admission (see p. 19) should, if possible, submit their records to the Secretary of the College before February 15 of the year in which the examinations are to be taken.*

**Examination Fee.** — The fee for each series of examinations is \$6.<sup>1</sup>

Every application for examination in June must be accompanied by a fee of \$6<sup>1</sup> in the form of a postal order, express order or draft on New York, to the order of the *College Entrance Examination Board*, for all candidates examined at points in the United States and Canada, and \$20 for all candidates examined at points outside of the United States and Canada.

Every application for examination in September or in January must be accompanied by a fee of \$6 in the form of a postal order, express order, or draft on New York, to the order of *Barnard College*.

If a late application is accepted a second fee of \$6<sup>1</sup> must be paid.

The receipt for the examination fee must be carefully preserved by the candidate and shown (not surrendered) to the supervisor in charge of the examinations as evidence of her right to be admitted to the same.

The fee for examination in June cannot be returned unless the request for the cancellation of the application and the return of the fee reaches the Secretary of the Board on or before June 13, 1921. The fee for examination in September or January cannot be returned unless the request for the cancellation of the application and the return of the fee reaches the Registrar of Barnard College on or before September 15, 1921, or January 14, 1922.

**Special Examinations.** — Special entrance examinations in certain subjects may be held in May, under the management of the Columbia University Committee on Admissions. Schools desiring these examinations should apply through the Secretary of Barnard College to the Committee

<sup>1</sup> Beginning in 1922, the College Entrance Examination Board's regular fee will be \$8 and the fee for late application also \$8.

on Admissions, which may, at its discretion, grant this privilege. The fee for each candidate for such a series of special examinations will generally be \$12.

**Comprehensive Examinations.**—The College Entrance Examination Board also holds a set of Comprehensive Examinations designed primarily to meet the needs of candidates wishing to enter by the New Plan of admission (see pp. 19, 47). Candidates for admission by the Old Plan may take the comprehensive examination in the whole of any subject offered instead of the 'ordinary' examinations in the separate parts of that subject, *e. g.*, English Cp. instead of English *a* and *b*.

The applications and examination fees of candidates desiring to take the Board's comprehensive examinations are subject to the same general rules as the applications and fees of other candidates for examination (see page 20).

**Supplementary Psychological Examination.**—A psychological examination, to test general ability, common sense, and fitness for college work, may be taken, if the candidate so desires, to *supplement* the regular entrance examinations. It will be held at Barnard College at 9 a. m., June 27, and September 23, 1921, and January 31, 1922. In case suitable arrangements can be made, it may be held in June at other places for candidates who apply for it by June 1. The fee is \$6 for candidates who are not taking other Columbia University examinations at the same time.

**Schedule of Examinations.**—Candidates taking the examinations must report to the supervisor, in the examination room, fifteen minutes in advance of the first examination which they are to attend.

#### June 20-25, 1921

*On Tuesday morning and on every subsequent half-day a candidate will be permitted to remain under examination for four hours, but not longer, if the periods assigned to the examinations that she wishes to take aggregate four hours or more.*

#### Monday, June 20

Mathematics <i>a</i> , elementary algebra (3 hours) . . . . .	9:30
Mathematics <i>ai</i> , algebra to quadratics (2 hours) . . . . .	9:30
Mathematics <i>aii</i> , quadratics and beyond (2 hours) . . . . .	9:30
Comprehensive Elementary Mathematics, Cp.3 (3 hours) . . . . .	9:30
Comprehensive Elementary and Advanced Mathematics, Cp.4 (3 hours) . . . . .	9:30
<sup>1</sup> French (3 hours) . . . . .	2:00
French <i>x</i> , elementary aural (1 hour) . . . . .	5:00

#### Tuesday, June 21

English <i>ab</i> , grammar, composition, reading and study (3 hours) . . . . .	9:00
English <i>a</i> , grammar, composition and reading (2 hours) . . . . .	9:00
English <i>b</i> , grammar, composition and study (2 hours) . . . . .	9:00
Comprehensive English (3 hours) . . . . .	9:00

<sup>1</sup> The comprehensive examination in French will make provision for French Cp.2, Cp.3, Cp.4, *a*, *b*, *bc*.

Comprehensive Chemistry (3 hours) . . . . .	2:00
Latin 3, second year Latin (2 hours) . . . . .	2:00
Latin <i>q</i> , sight translation of poetry (2 hours) . . . . .	2:00
French <i>y</i> , intermediate aural (1 hour) . . . . .	5:00

## Wednesday, June 22

Comprehensive Latin (3 hours) . . . . .	9:00
Latin <i>p</i> , sight translation of prose (2 hours) . . . . .	9:00
Latin 6, advanced prose composition (1 hour) . . . . .	9:00
Mathematics <i>b</i> , advanced algebra (2 hours) . . . . .	2:00
Mathematics <i>f</i> , plane trigonometry (2 hours) . . . . .	2:00
Comprehensive Physics (3 hours) . . . . .	2:00

## Thursday, June 23

History <i>a</i> , ancient (2 hours) . . . . .	9:00
History <i>c</i> , modern (2 hours) . . . . .	9:00
History <i>d</i> , English (2 hours) . . . . .	9:00
History <i>g</i> , American and Civil Government (2 hours) . . . . .	9:00
Comprehensive History (3 hours) . . . . .	9:00
Mathematics <i>cd</i> , plane and solid geometry (3 hours) . . . . .	2:00
Mathematics <i>c</i> , plane geometry (2 hours) . . . . .	2:00
Mathematics <i>d</i> , solid geometry (2 hours) . . . . .	2:00
German <i>x</i> , elementary aural (1 hour) . . . . .	5:00
Spanish <i>x</i> , elementary aural (1 hour) . . . . .	5:00

## Friday, June 24

Botany (2 hours) . . . . .	9:00
Chemistry (2 hours) . . . . .	9:00
Geography (2 hours) . . . . .	9:00
Physics (2 hours) . . . . .	9:00
Zoölogy (2 hours) . . . . .	2:00
<sup>1</sup> German (3 hours) . . . . .	2:00
<sup>2</sup> Spanish (3 hours) . . . . .	2:00
German <i>y</i> , intermediate aural (1 hour) . . . . .	5:00
Spanish <i>y</i> , intermediate aural (1 hour) . . . . .	5:00

## Saturday, June 25

Freehand Drawing (2 hours) . . . . .	9:00
Comprehensive Greek (3 hours) . . . . .	9:00
Greek <i>a</i> , grammar and elementary composition (2 hours) . . . . .	9:00
Greek <i>b</i> , Xenophon's <i>Anabasis</i> (2 hours) . . . . .	9:00
Greek <i>f</i> , advanced composition (1 hour) . . . . .	9:00
Greek <i>g</i> , sight translation of prose (2 hours) . . . . .	9:00
Greek <i>c</i> , Homer's <i>Iliad</i> (2 hours) . . . . .	2:00

<sup>1</sup> The comprehensive examination in German will make provision for German Cp.2, Cp.3, Cp.4, *a*, *b*, *bc*.

<sup>2</sup> The comprehensive examination in Spanish will make provision for Spanish Cp.2, Cp.3, *a*, *b*.

## September 19-24, 1921, and January 19-25, 1922

If a candidate should find it necessary to take more than one examination on the same half-day, the examinations must follow immediately after one another, with an interval, if the candidate request it, not exceeding ten minutes. During this brief interval, the candidate will not be permitted to leave the examination room or to communicate with any one except the Supervisor in charge of the examinations.

## Monday, September 19, and Thursday, January 19

English <i>a</i> , grammar, composition and reading (2 hours) . . . . .	9:00
English <i>b</i> , grammar, composition and study (2 hours) . . . . .	9:00
<sup>1</sup> Comprehensive English (3 hours) . . . . .	9:00
<sup>1</sup> Botany (2 hours) . . . . .	2:00
Chemistry (2 hours) . . . . .	2:00
<sup>1</sup> Comprehensive Chemistry (3 hours) . . . . .	2:00
<sup>1</sup> Physiography (2 hours) . . . . .	2:00
Physics (2 hours) . . . . .	2:00
<sup>1</sup> Comprehensive Physics (3 hours) . . . . .	2:00
<sup>1</sup> Zoölogy (2 hours) . . . . .	2:00

## Tuesday, September 20, and Friday, January 20

Latin, Second Year (2 hours) . . . . .	9:00
Latin, Third Year, sight translation of prose (2 hours) . . . . .	9:00
Latin, Fourth Year, sight translation of verse and prose composition (2 hours) . . . . .	9:00
Comprehensive Latin (3 hours) . . . . .	9:00
Aural French <i>x</i> , elementary (1 hour) . . . . .	1:00
<sup>2</sup> French (3 hours) . . . . .	2:00
Aural French <i>y</i> , elementary (1 hour) . . . . .	5:00

## Wednesday, September 21, and Saturday, January 21

Mathematics <i>a i</i> , algebra to quadratics (2 hours) . . . . .	9:00
Mathematics <i>a ii</i> , quadratics and beyond (2 hours) . . . . .	9:00
Mathematics <i>a</i> , elementary algebra, complete (3 hours) . . . . .	9:00
<sup>1</sup> Comprehensive Elementary Mathematics (3 hours) . . . . .	9:00
Aural Spanish <i>x</i> , elementary (1 hour) . . . . .	1:00
Aural German <i>x</i> , elementary (1 hour) . . . . .	1:00
<sup>2</sup> German (3 hours) . . . . .	2:00
<sup>2</sup> Spanish (3 hours) . . . . .	2:00
Aural German <i>y</i> , intermediate (1 hour) . . . . .	5:00
Aural Spanish <i>y</i> , intermediate (1 hour) . . . . .	5:00

<sup>1</sup> Examinations not given in these subjects in January.

<sup>2</sup> The examinations in French, German, and Spanish will make provision for French Cp.2, Cp.3, Cp.4, *a*, *b*, *bc*; German Cp.2, Cp.3, Cp.4, *a*, *b*, *bc*, Spanish Cp.2, Cp.3, *a*, *b*.

*Thursday, September 22 and Monday, January 23*

History <i>a</i> , ancient (2 hours) . . . . .	9:00
History <i>c</i> , modern European (2 hours) . . . . .	9:00
History <i>d</i> , English (2 hours) . . . . .	9:00
History <i>g</i> , American and Civil Government (2 hours) . . . . .	9:00
<sup>1</sup> Comprehensive History (3 hours) . . . . .	9:00
Mathematics <i>d</i> , solid geometry (2 hours) . . . . .	2:00
Mathematics <i>b</i> , advanced algebra (2 hours) . . . . .	2:00
Mathematics <i>f</i> , plane trigonometry (2 hours) . . . . .	2:00
<sup>1</sup> Comprehensive Advanced Mathematics (3 hours) . . . . .	2:00
<sup>1</sup> Comprehensive Greek (3 hours) . . . . .	2:00

*Friday, September 23, and Tuesday, January 24*

Mathematics <i>c</i> , plane geometry (2 hours) . . . . .	2:00
Drawing (2 hours) . . . . .	2:00
<sup>1</sup> Music <i>a</i> , musical appreciation (2 hours) . . . . .	2:00
<sup>1</sup> Music <i>b</i> , harmony (2 hours) . . . . .	2:00
<sup>1</sup> Italian (2 hours) . . . . .	2:00

**Substitutes for the Board or Barnard Examinations.**—Barnard College accepts in lieu of its entrance examinations or those of the College Entrance Examination Board<sup>2</sup> no credentials of any sort except (1) the examination reports of the Education Department of the State of New York, showing that the candidate has completed certain courses in a high school in the State of New York and that she has passed the examinations of the Education Department in these subjects<sup>3</sup> (for table of equivalents, see page 26), (2) with special permission, the official reports of entrance examinations taken in good faith for admission to other colleges, and (3) certain courses of the Summer Session of Columbia University (see p. 27). These credentials are accepted only in so far as they cover specifically, and by name, subjects or lettered (or numbered) parts of a subject which are accepted for admission to Barnard College, and state in percentages the grades received in the examinations in such subjects. Candidates must take the regular entrance examinations in the subjects in which their credentials are not deemed adequate. Except for reasons of weight, credentials are not accepted as covering subjects passed more than twenty-nine months previous to the date at which the candidate intends to begin residence. No certificates from preparatory schools or from preparatory departments of colleges will be accepted in lieu of entrance examinations.

In order to be credited toward entrance, the candidate's credentials, together with (1) the statement of the extent and character of her preparation in each subject offered (see School Record, page 17), and (2) any certifi-

<sup>1</sup> Examinations not given in these subjects in January.

<sup>2</sup> The numerical ratings of the Board are accepted by the College, but the passing mark is fixed by the Committee on Admissions.

<sup>3</sup> 75% will ordinarily be regarded as the lowest passing mark in these examinations.

cates for science laboratory work or drawings that she has to present, must be in the hands of the Committee on Admissions on or before August 1 for admission in September, and on or before January 1, for admission in February.

**State Education Department Examinations.**— Candidates for admission on the credentials of the New York State Education Department should notify the Secretary of Barnard College of their intention on or before August 1 for admission in September and on or before December 1 for admission in February, in order that sufficient time may be allowed for obtaining their records from the Education Department.

*In these examinations 75% will ordinarily be regarded as the lowest passing mark. These examinations will be subject to the same rules as to series and dates as other examinations (see p. 17).*

The subjects for which the State credentials are accepted and their value in Barnard entrance units are as follows:

	State Education Department counts	Barnard units
<sup>1</sup> Botany (Advanced Botany) . . . . .	5	1
<sup>1</sup> Chemistry . . . . .	5	1
<sup>1</sup> Drawing, Elementary Design, and Elementary Representation and Intermediate Drawing . . . . .	6	1
<sup>2</sup> English, Four Years (including literature questions) 14-16 . . . . .	14-16	3
French, elementary, Two Years . . . . .	10	2
French, intermediate, Third Year . . . . .	5	1
French, advanced, Fourth Year . . . . .	5	1
German, elementary, Two Years . . . . .	10	2
German, intermediate, Third Year . . . . .	5	1
German, advanced, Fourth Year . . . . .	5	1
Greek:		
Grammar and Composition . . . . .	.	
Second Year Greek . . . . .	10	2
Translation of Prose at Sight . . . . .	}	
Third Year Greek . . . . .	5	½
Advanced Prose Composition . . . . .	0	½
<sup>1</sup> History:		
<sup>1</sup> Ancient or Major Sequence Course A . . . . .	5	1
<sup>1</sup> Modern, Parts I and II or Major Sequence Course B 5-6 . . . . .	5-6	1
<sup>1</sup> English . . . . .	5	1
<sup>1</sup> American or Major Sequence Course C . . . . .	5	1
Italian . . . . .	10	2

<sup>1</sup> Credit cannot be secured in these subjects unless the following requirements are met:

(a) In all natural sciences, teachers' certificates of laboratory work, covering exercises described in the definitions of requirements in each subject (pp. 30-47), must be presented in accordance with the regulations stated on page 49. In doubtful cases, the candidate will be required to submit a certified laboratory note-book.

(b) In Drawing, a teacher's certificate, covering at least twenty drawings, must be presented in accordance with the regulations stated on page 49.

(c) In History, only the five-count electives will be accepted.

<sup>2</sup> Candidates must submit certificates showing that they included the literature questions in their Regents' examinations in English.

<sup>1</sup> Latin (for candidates offering 4 units):

<sup>1</sup> Prose at Sight . . . . .	4	1½
<sup>1</sup> Verse at Sight . . . . .	4	1½
Advanced Prose Composition . . . . .	0	1

## Latin (for candidates offering 2 or 3 units):

<sup>1</sup> Second Year Latin . . . . .	8	2
<sup>1</sup> Prose or Verse at Sight . . . . .	4	1

## Mathematics:

Algebra . . . . .	7	2
Intermediate Algebra . . . . .	5	1
Plane Geometry . . . . .	2	½
Solid Geometry . . . . .	2	½
Plane Trigonometry . . . . .	2	½
Advanced Algebra . . . . .	5	1
<sup>2</sup> Physics . . . . .	5	1
<sup>2</sup> Physiography . . . . .	5	1
Spanish, elementary, Two Years . . . . .	10	2
Spanish, intermediate, Third Year . . . . .	5	1
<sup>2</sup> Zoölogy (Advanced Zoölogy) . . . . .	5	1

**Summer Session Work in Lieu of Entrance Examinations.**—A grade of C (except for Latin sZ, in which B will be required) in the following courses of the Summer Session of Columbia University will fulfill entrance requirements or remove entrance conditions in the subjects specified in each case:

Chemistry sA—for chemistry

French sA1, sA2, sA3—for elementary French

French sB1—for intermediate French

French sB2—for advanced French

Geography s25—for physiography

German sA1, sA2—for elementary German

German sB1—for intermediate German

German sB2—for advanced German

Italian s1 with s3—for elementary Italian

Latin sZ—for advanced Latin prose composition (a grade of B required)

Mathematics sA1, sA2, s1—for the corresponding parts of advanced mathematics

Physics sA1 and sA2—for physics

Spanish sA1 and sA2—for elementary Spanish

Spanish sB1—for intermediate Spanish

Other Summer Session courses may be counted as fulfilling entrance requirements only by special permission.

<sup>1</sup> Owing to the fact that the examinations in third and fourth year Latin given by the State Education Department are not entirely at sight, as now regularly required by Columbia University, candidates entering on State examinations are strongly advised to take the examinations in Latin prose at sight and verse at sight, either instead of or in addition to the third and fourth year papers. The College reserves the right to examine in Latin any candidate who has not passed these sight translation papers, in case for any reason it deems it desirable to do so. This regulation applies to all examinations taken in June, 1919, and thereafter.

<sup>2</sup> Credit cannot be secured in these subjects unless the following requirements are met:

(a) In all natural sciences, teachers' certificates of laboratory work, covering exercises described in the definitions of requirements in each subject (pp. 30-47), must be presented in accordance with the regulations stated on page 49. In doubtful cases, the candidate will be required to submit a certified laboratory note-book.

**Entrance Conditions and Probation.**—A candidate for admission who has not secured the prescribed fifteen units may be admitted to the freshman class with conditions, if, in the judgment of the Committee on Admissions, she is qualified to undertake the work of the class. General deficiency in any prescribed subject will disqualify for admission. Except for reasons of weight a student who has failed to complete a course in a good high school or preparatory school will not be admitted with conditions.

*All entrance conditions must be removed within one calendar year from the date of entrance.*

A student admitted conditionally or by credentials from another college or from the State Education Department will be held under probation during the first winter or spring session of residence. By Tuesday of the week preceding the Thanksgiving holidays, each department in which students on probation attend will make to the Committee on Instruction a special report of progress in the case of every such student. The Dean, on the recommendation of the Committee on Instruction, will as soon as practicable after the mid-year examinations decide as to each student on probation whether she shall be admitted to full standing, have her period of probation extended, or be dropped from the roll.

The mark C, B, or A, obtained at the end of the first winter or spring session of residence, in a course of a higher grade than the entrance requirement, will be regarded as removing an entrance condition in that subject, unless the condition was incurred in a part of the subject not directly involved in the work of the college course. To remove a condition by college work a mark of at least thirty-five per cent. must have been obtained in an entrance examination. Any condition not so removed must be satisfied by a regular entrance examination for which an application must be filed and a fee paid precisely as required of a candidate for admission. (Regarding the removal of entrance conditions by work in the Summer Session of Columbia University, see above.)

While work done in University extension courses is not primarily accepted in lieu of entrance examinations, *entrance conditions* may be removed by a grade of at least C subsequently obtained in the appropriate extension courses. Students in college who desire to avail themselves of this privilege must submit their choice of extension courses for the approval of the Committee on Instruction as a part of their regular college work. (For the general regulations regarding the election of extension courses, see page 54.)

### ADMISSION TO ADVANCED STANDING

Students who have satisfactorily completed at least a year of work at an acceptable college or scientific school or foreign institution of equivalent grade may be admitted with such advanced credit as their previous records may warrant.

Each candidate should send to the Committee on Admissions a statement of her previous preparatory school and college work, including grades, on an

application blank to be obtained from the Secretary of the College, and also a marked catalogue of her college plainly showing every requirement for admission and every course of instruction with which she is credited. This information should be in the hands of the Committee by August 1 for admission in September, or by January 1 for admission in February. The Committee will then inform her whether or not she may be admitted to Barnard, but final confirmation will depend on (1) an official statement of her academic record including entrance credits, (2) an honorable dismissal from the college which she is leaving, (3) a certificate signed by an authorized representative of that college testifying to her good moral character, and (4) a certificate of sound health. A student is therefore advised to file these statements at the time of application; invariably they must be filed before the admission of the student. The Committee will give the student a tentative estimate of the number of points that she may receive as credit toward the Barnard degree and the class to which she belongs. Final determination of these matters lies with the Committee on Transfers, which reserves the right of readjusting credit at any time.

No applicant may enter the senior class as a candidate for a degree after October 15 in any year, and no student will receive a degree who has resided less than two full sessions (winter or spring) at Barnard College. (See also paragraph 10, page 53.)

Candidates for admission to the freshman class offering by examination more than the required 15 units may be given credit toward a degree for this extra work, on a basis to be determined by the Committee on Admissions, provided that not more than 18 of the 120 points required for a degree may be gained in this way.

### ADMISSION AS SPECIAL STUDENTS

A candidate for admission as a special student must fill out the appropriate application blank to be obtained from the Secretary and file it with the Committee on Admissions by August 1 for admission in September, or by January 1 for admission in February.

Special students in Barnard College are of two classes: matriculated and non-matriculated.

**Matriculated Special Students.**—Matriculated special students are women who wish, without taking a degree, to make a serious study of some subject or group of subjects. They must pass the regular examinations for admission to the freshman class and have full credit for fifteen units of the entrance requirements. (See p. 18.) They may, therefore, in event of a change of plan, be credited with such of their courses as may coincide with the courses leading to a degree.

**Non-Matriculated Special Students.**—Non-matriculated special students must be women of mature age who wish to pursue chiefly advanced courses of special study. They may be admitted at the discretion of the Committee on Admissions without passing formal entrance examinations; but they must furnish proof that they have at some time pursued the studies included in

the matriculation examinations and must satisfy the requirements of the department that they desire to enter. *Candidates desiring to pursue merely elementary courses, as in languages, etc., will not be admitted as non-matriculated special students.*

Ordinarily no work done by a non-matriculated special student may count toward a degree.

Except for reasons of weight, satisfactory to the Committee on Admissions, no one will be received as a special student who is less than eighteen years of age, or who has, within ten months of the time of her application, either been rejected or become deficient as a regular student.

Once admitted to the College, special students will be allowed to select their own courses of study subject to the general approval of the Provost, on the recommendation of the Committee on Instruction, and to the particular approval, for each course selected, of the head of the department in which the course is given. They are subject to the same regulations in regard to health and physical training as other students. (See p. 74.)

Each student is required to pursue in each winter or spring session courses amounting to at least eight points, unless excused by the Provost, on the recommendation of the Committee on Instruction, for reasons of special weight.

In the courses which they severally pursue all special students will be held to the observance of the same regulations as to attendance, examination, proficiency, and deficiency as regular students.

All special students will receive a formal statement as to the satisfactory completion of the work that they have taken.

## DEFINITIONS OF REQUIREMENTS<sup>1</sup>

Specimens of the question papers set by Columbia University may be obtained from the Secretary upon application. The question papers of the College Entrance Examination Board are published annually in book form by Ginn & Company. Separate question papers remaining from the examinations may also be purchased from the Secretary of the Board, 431 West 117th Street, New York.

For a more detailed statement of the requirements in botany and physiography or lists of suitable laboratory experiments in chemistry and physics the reader is referred to the pamphlet of the College Entrance Examination Board containing definitions of the requirements in each subject.

### BOTANY (counting one unit)

The candidate should have received training by means of the laboratory method in:

The structure and the more obvious features of the life history of at least ten types among the higher seed plants chosen from the more representative families (*e.g.*, Gramineæ, Liliaceæ, Saliaceæ, Ranunculaceæ, Rosaceæ, Leguminosæ, Cruciferæ, Solanaceæ, Labiatæ, Compositæ). In addition to these, the following types are recommended among the remaining lower groups of plants: pine, *Selaginella*, a fern, a moss (*Polytrichum* or *Funaria*), a leafy hepatic, *Marchantia*, a mildew (*Microsphaera*), an agaric, *Vaucheria*, *Spirogyra*, and a protophyte (preferably *Sphaerella*).

Morphology of shoot, root, and seed. This work covers the growth, character, relation, and function of the more important tissues of the stem,

<sup>1</sup> The relative value of subjects is expressed in units according to the time required for adequate preparation in them; a unit in the sense here used represents a course of five periods weekly throughout an academic year of the preparatory school.

leaf, bud, and root together with a study of the more common variations of these organs. The work on the seed includes the structure and homologies of the principal types, nature of reserve food, the renewal of growth of the seed, and the development of the seedling.

Physiology. This work should cover the essential facts concerning irritability, photosynthesis, respiration, digestion, growth, and reproduction.

Ecology. The natural history of plants should receive considerable attention, and the behavior of plants toward environmental factors (especially light and moisture), dissemination, cross and close pollination, and the more important structural and physiological characteristics of plant formations (hydrophytes, halophytes, mesophytes and xerophytes) should be included.

A teacher's certificate of laboratory work must be presented. (See page 49). *The candidate must be prepared to submit an indexed note-book of her laboratory work in case the rest of her record in the subject, including the certificate, is not fully satisfactory.*

### CHEMISTRY (counting one unit)

*(For Comprehensive Examination, see page 47)*

The candidate's preparation in chemistry should include:

*a.* The study of a standard text-book to the end that the pupil may gain a comprehensive and connected view of the most important facts and laws of elementary chemistry.

*b.* Instruction by lecture-table demonstrations, to be used mainly as a basis for questioning upon the general principles involved in the pupil's laboratory investigations.

*c.* Individual laboratory work, comprising at least forty exercises.

A teacher's certificate of laboratory work must be presented. (See page 49.) *The candidate must be prepared to submit an indexed note-book of her laboratory work in case the rest of her record in the subject, including the certificate, is not fully satisfactory.*

The following outline includes only the indispensable things which must be studied in the classroom and laboratory. The material is, for the most part, common to all elementary text-books and laboratory manuals. The order of presentation will naturally be determined by each teacher for himself.

*Outline*—The chief physical and chemical characteristics, the preparation and the recognition of the following elements together with their principal compounds: *oxygen, hydrogen, carbon, nitrogen, chlorine, bromine, iodine, fluorine, sulphur, phosphorus, silicon, potassium, sodium, calcium, magnesium, zinc, copper, mercury, silver, aluminum, lead, tin, iron, manganese, chromium.*

More detailed study should be confined to the italicized *elements* (as such) and to a restricted list of compounds such as: water, hydrochloric acid, carbon-monoxide, carbon-dioxide, oxides of nitrogen, nitric acid, ammonia sulphur-dioxide, sulphuric acid, hydrogen sulphide, sodium-hydroxide, ammonium-hydroxide.

Attention should be given to the atmosphere (constitution and relation to animal and vegetable life), flames, acids, bases, salts, oxidation and reduction, crystallization, combining proportions by weight and volume, calculations founded on these and Boyle's and Charles's laws, symbols and nomenclature, atomic and ionization theory, atomic weights, valency (in a very elementary way), nascent state, natural grouping of the elements, solution (solvents and solubility of gases and solids and liquids, saturation), strength of acids

and bases, conservation and dissipation of energy, chemical energy, electrolysis. Chemical terms should be clearly understood, and the pupil should be able to illustrate and apply the ideas they embody. The theoretical topics are not intended to form separate subjects of study, but to be taught only so far as is necessary for the correlation and explanation of the experimental facts.

#### DRAWING (counting one unit)

The candidate's preparation in drawing should be directed toward training her in accurate observation and in definite and truthful representation of form, without attempt to represent color or color values.

The candidate should be able to draw correctly and with lines of good quality simple forms in correct perspective in the size in which they are felt in the plane of the drawing, or larger or smaller. It is recommended that pupils should be taught to draw from the object itself rather than from the flat.

The elementary principles of perspective are to be thoroughly learned, and the candidate should be able to apply them in freehand drawing from the object or from the imagination.

No definite prescription as to method of teaching is made. The examination will test the preparation of the candidate in the following points:

1. Ability to sketch from the object with reasonable correctness as to proportion, structure, and form. It is recommended that the subjects drawn include simple geometrical objects and simple natural objects such as living plant forms.
2. Ability to sketch freehand from dictation with reasonable accuracy any simple geometrical figure or combination of figures.
3. Ability to represent accurately in perspective a simple geometrical solid of which projection drawings are given, and ability to make consistent projection drawings of a simple geometrical solid of which a perspective representation is given.
4. Ability to answer questions in regard to the principles involved in making these drawings.

Each candidate must present a teacher's certificate for the drawings executed. (See page 49.) *The candidate must be prepared to submit a set of twenty drawings, displaying proficiency in the points mentioned above, in case the rest of her record in the subject is not fully satisfactory.*

Correctness of proportion and accuracy in the angles and curves and structural relations of the parts of every figure or object drawn are of the highest importance, and in laying out the drawings great care should be taken in the use of construction lines, and in the drawing of general masses and contour before the details are begun.

A certain proportion of shade drawings from casts may be included, but they are not required and should not form the majority of the drawings. If drawings are submitted, they should be of uniform size, and fastened together, not rolled.

#### ENGLISH

##### Elementary (counting three units)

*(For Comprehensive Examination, see page 47)*

The entrance examinations in English are given upon the plan recommended by the National Conference on Uniform Entrance Requirements in English, and adopted by the College Entrance Examination Board.

**Requirement for 1921-1922**

**Objects of Study.**—The study of English in school has two main objects: (1) Command of correct and clear English, spoken and written; (2) ability to read with accuracy, intelligence, and appreciation.

**Grammar and Composition.**—The first object requires instruction in grammar and composition. English grammar should ordinarily be reviewed in the secondary school; and correct spelling and grammatical accuracy should be rigorously exacted in connection with all written work during the four years. The principles of English composition governing punctuation, the use of words, sentences, and paragraphs should be thoroughly mastered; and practice in composition, oral as well as written, should extend throughout the secondary school period. Written exercises may well comprise letter-writing, narration, description, and easy exposition and argument. It is advisable that subjects for this work be taken from the student's personal experience, general knowledge, and studies other than English, as well as from her reading in literature. Finally, special instruction in language and composition should be accompanied by the concerted effort of teachers in all branches to cultivate in the student the habit of using good English in her recitations and various exercises, whether oral or written.

**Literature.**—The second object is sought by means of the reading and study of a number of books from which may be framed a progressive course in literature. The student should be trained in reading aloud and should be encouraged to commit to memory notable passages both in verse and in prose. As an aid to literary appreciation, she is further advised to acquaint herself with the most important facts in the lives of the authors whose works she reads and with their place in literary history. She should read the books carefully, but her attention should not be so fixed upon details that she fails to appreciate the main purpose and charm of what she reads.

A few of these books should be read with special care, greater stress being laid upon form and style, the exact meaning of words and phrases, and the understanding of allusions.

**Examination, 1921-1922**

Candidates will have the option of taking either of two examinations: (i) Comprehensive; (ii) Restricted. The comprehensive examination is described on page 47. The following statements apply to the restricted examination.

However accurate in subject-matter, no paper will be considered satisfactory if seriously defective in punctuation, spelling, or other essentials of good usage.

**Grammar and Composition.**—In grammar and composition, the candidate may be asked specific questions upon the practical essentials of these studies, such as the relation of the various parts of a sentence to one another, and those good usages of modern English which one should know in distinction from current errors. The main test in composition will consist of one or more essays developing a theme through several paragraphs; the subjects will be drawn from the books read, from the candidate's other studies, and from her personal knowledge and experience quite apart from reading. For this purpose the examiner will provide several subjects, perhaps eight or ten, from which the candidate may make her own selections. She will not be expected to write more than 400 words an hour.

**Literature.**—The examination will include:

*A.* Questions designed to test such knowledge and appreciation of literature as may be gained by an intelligent reading of the books given in List *A* below.

*B.* A test on the books in List *B* below. This will consist of questions upon their content, form, and structure, and upon the meaning of such words, phrases and allusions as may be necessary to an understanding of the works and appreciation of their salient qualities of style. General questions may also be asked concerning the lives of the authors, their other works, and the periods of literary history to which they belong.

**Division of Examination.**—When parts *A* and *B* of the examination are taken at different times, each will include a test in grammar and composition.

#### List of Books, 1921-1922

**A. Books for Reading.**—The books provided for reading are arranged in the following groups, from each of which at least two selections are to be made, except that for any book in Group *I* a book from any other may be substituted.

GROUP I (Classics in Translation). The *Old Testament*, at least the chief narrative episodes in Genesis, Exodus, Joshua, Judges, Samuel, Kings, and Daniel, together with the books of Ruth and Esther; the *Odyssey*, with the omission, if desired, of Books I-V, XV, and XVI, the *Aeneid*. The *Odyssey* and the *Aeneid* should be read in English translations of recognized literary excellence.

GROUP II (Drama). Shakespeare, *Merchant of Venice*, *As You Like It*, *Julius Caesar*.

GROUP III (Prose Fiction). Dickens, *A Tale of Two Cities*; George Eliot, *Silas Marner*; Scott, *Quentin Durward*; Hawthorne, *The House of the Seven Gables*.

GROUP IV (Essays, Biography, Etc.). Addison and Steele, *The Sir Roger de Coverly Papers*; Irving, *The Sketch Book*—selections covering about 175 pages; Macaulay, *Lord Clive*; Parkman, *The Oregon Trail*.

GROUP V (Poetry). Tennyson, *The Coming of Arthur*, *Gareth and Lynette*, *Lancelot and Elaine*, *The Passing of Arthur*; Browning, *Cavalier Tunes*, *The Lost Leader*, *How they Brought the Good News from Ghent to Aix*, *Home Thoughts from Abroad*, *Home Thoughts from the Sea*, *Incident of the French Camp*, *Hervé Riel*, *Pheidippides*, *My Last Duchess*, *Up at a Villa—Down in the City*, *The Italian in England*, *The Patriot*, *The Pied Piper*, 'De Gustibus—', *Instans Tyrannus*; Scott, *The Lady of the Lake*; Coleridge, *The Ancient Mariner*, and Arnold, *Sohrab and Rustum*.

**B. Books for Study.**—The books provided for study are arranged in four groups, from each of which one selection is to be made.

GROUP I (Drama). Shakespeare: *Macbeth* or *Hamlet*.

GROUP II (Poetry). Milton, *L'Allegro*, *Il Penseroso*, *Comus*; Book IV of Palgrave's *Golden Treasury* (First Series), with special attention to Wordsworth, Keats, and Shelley.

GROUP III (Oratory). Burke, *Speech on Conciliation with America*; Washington's *Farewell Address*; Webster's *First Bunker Hill Oration*; and Lincoln's *Gettysburg Address*.

GROUP IV (Essays). Macaulay, *Life of Johnson*; Carlyle, *Essay on Burns*, with a brief selection from Burns's *Poems*.

#### FRENCH

(For Comprehensive Examination, see page 48)

**NOTE.**—The entrance examinations in Elementary and Intermediate French will include an Elementary Aural Test to be designated as French *x* supplementary to the present examination which is designated French *a*, and an Intermediate Aural to be designated as French *y* supplementary to the present examination which is designated *b*. The candidates in *x* and *y* will be examined in groups of not more than seventy-five in order that the examiner may be heard without difficulty.

These tests will be given in June at Columbia University as well as in September and January.

#### a. Elementary (counting two units)

To secure credit for Elementary French, candidates will be required to offer both *a* and *x*. Those who pass *a* but do not pass *x* will not be required to repeat the examination in *a*. Those who fail in *a*, however, must repeat also the examination in *x*. No part of the two units will be credited until both *a* and *x* shall have been passed.

**x. Aural test:** (1) Writing easy French prose from dictation; (2) writing in English the content of a short 'unseen' passage of easy French prose read aloud by the examiner; (3) writing in French answers to easy oral questions in French on a short connected passage read by the candidates immediately before the questions are asked.

Candidates who pursue the study of French after admission to college will be subjected to an individual test in reading and pronunciation, but credit for admission will not depend upon such test.

**a. Grammar, Reading, and Elementary Prose Composition:** (1) The rudiments of grammar, including the inflection of the regular and the more common irregular verbs, the plural of nouns, the inflection of adjectives, participles, and pronouns; the use of personal pronouns, common adverbs, prepositions and conjunctions; the order of words in the sentence, and the elementary rules of syntax; (2) translation at sight into English of easy dialogue or narrative prose; (3) translation into French of easy detached sentences from the language of every-day life illustrative of elementary grammatical principles and of simple idioms.

*The Aim of the Instruction.*—At the end of the elementary course the pupil should be able to pronounce French accurately, to read at sight easy French prose, to put into French simple English sentences taken from the language of every-day life, or based upon a portion of the French text read, and to answer questions on the rudiments of the grammar, as defined below.

*The Work to be Done.*—During the first year the work should comprise: (1) careful drill in pronunciation; (2) the rudiments of grammar as outlined in *a*, above; (3) abundant easy exercises, designed not only to fix in the memory the forms and principles of grammar but also to cultivate readiness in the reproduction of natural forms of expression; (4) the reading of from 100 to 175 duodecimo pages of graduated texts, with constant practice in translating into French easy variations of the sentences read (the teacher giving the English), and in reproducing from memory sentences previously read; (5) writing French from dictation.

During the second year the work should comprise: (1) the reading of from 250 to 400 pages of easy modern prose in the form of stories, plays, or historical or biographical sketches; (2) constant practice, as in the previous year, in translating into French easy variations upon the texts read; (3) frequent abstracts, sometimes oral and sometimes written, of portions of the text already read; (4) writing French from dictation; (5) continued drill upon the rudiments of grammar, with constant application in the construction of sentences; (6) mastery of the forms and use of pronouns, pronominal adjectives, of all but the rare irregular verb forms, and of the simpler uses of the conditional and subjunctive.

Suitable texts for the second year are: Daudet, *Le Petit Chose*; Erckmann-Chatrian, stories; Halévy, *L'Abbé Constantin*; Labiche et Martin, *Le voyage de M. Perrichon*; Lavis, *Histoire de France*.

#### **b. Intermediate (counting one unit)**

To secure credit for Intermediate French, candidates will be required to offer both *b* and *y*. The regulations governing examinations and credit are the same as those stated for Elementary French.

**y. Aural Test:** (1) Writing moderately difficult French from dictation; (2) writing in French the content of an 'unseen' passage of ordinary nar-

tive prose, read aloud by the examiner; (3) writing in French answers to oral questions, in French, on a connected passage read aloud by the examiner.

**b. Grammar, Reading, and Intermediate Prose Composition:** (1) The principles of French grammar in their application to ordinary prose; (2) interpretation by means of paraphrase, synonymy, or translation into English of moderately difficult prose or poetry, recent or classical; (3) translation into French of easy connected prose or the original composition in French of a simple passage.

*The Aim of the Instruction.*—At the end of the intermediate course the pupil should be able to read at sight ordinary French prose or simple poetry, to translate into French a connected passage of English based on the text read, and to answer questions involving a more thorough knowledge of syntax than is expected in the elementary course.

*The Work to be Done.*—This should comprise the reading of from 400 to 600 pages of French of ordinary difficulty, a portion to be in the dramatic form; constant practice in giving French paraphrases, abstracts, or reproductions from memory of selected portions of the matter read; the study of a grammar of moderate completeness; writing from dictation.

Suitable texts for the third year are: Bazin, *Les Oberlé*; Dumas, novels; Merimée, *Colomba*; Sandeau, *Mlle. de la Seiglière*; de Tocqueville, *Voyage en Amérique*.

**c. Advanced** (counting one unit)

*The Aim of the Instruction.*—At the end of the advanced course the pupil should be able to read at sight, with the help of a vocabulary of special or technical expressions, difficult French not earlier than that of the seventeenth century; to write in French a short essay on some simple subject connected with the works read; to put into French a passage of easy English prose; and to carry on a simple conversation in French.

*The Work to be Done.*—This should comprise the reading of from 600 to 1,000 pages of standard French, classical and modern, only difficult passages being explained in the class; the writing of numerous short themes in French; the study of syntax.

Suitable texts for the fourth year are: Dumas fils, *La question d'argent*; Hugo, *Quatre-vingt treize*, *Les misérables*; Loti, *Pêcheur d'Islande*; Taine, *L'Ancien régime*; Vigny, *Cinq-Mars*; an anthology of verse.

## GERMAN

(*For Comprehensive Examination, see page 48*)

**NOTE.**—The entrance examinations in Elementary and Intermediate German will include an Elementary Aural Test to be designated as German *x* supplementary to the present examination which is designated German *a*, and an Intermediate Aural to be designated German *y* supplementary to the present examination which is designated *b*. The candidates in *x* and *y* will be examined in groups of not more than seventy-five in order that the examiner may be heard without difficulty.

These tests will be given in June at Columbia University as well as in September and January.

**a. Elementary** (counting two units)

To secure credit for Elementary German, candidates will be required to offer both *a* and *x*. Those who pass *a* but do not pass *x* will not be required to repeat the examination in *a*. Those who fail in *a*, however, must repeat also the examination in *x*. No part of the two units will be credited until both *a* and *x* shall have been passed.

**x. Aural Test:** (1) Writing easy German prose from dictation; (2) writing in English the content of a short 'unseen' passage of easy German prose read aloud by the examiner; (3) writing in German answers to easy oral questions in German on a short connected passage read by the candidates immediately before the questions are asked.

Candidates who pursue the study of German after admission to college will be subjected to an individual test in reading and pronunciation, but credit for admission will not depend upon such test.

**a. Grammar, Reading, and Elementary Prose Composition:** (1) The rudiments of grammar, including the use of the more common prepositions, the simpler uses of the modal auxiliaries, and the elementary rules of syntax and word-order; (2) translation at sight into English of easy dialogue or narrative prose; (3) translation into German of easy detached sentences from the language of every-day life illustrative of elementary grammatical principles and of simple idioms.

**Aim of the Instruction.**—During the elementary course in German pupils should be taught to read and to understand, when read to them, easy prose. They should also receive systematic training in the oral and written use of the foreign language and be able to turn short, easy English sentences into German.

During the first year the work should comprise: (1) Careful drill in pronunciation. Especial attention should be given at all times to reading aloud and to work in dictation. (2) Systematic study of the essentials of grammar should be begun. Abundant oral and written exercises, definitely planned to enable pupils to use the various parts of speech in sentence form, should always supplement the learning of paradigms and rules. (3) A small amount (40-50 pages) of prepared reading of such a character as to lend itself easily to question and answer work and to other kinds of oral and written exercises in the foreign language. Very easy sight-reading should supplement the prepared work. If translation from the mother tongue is used the first year, the exercises should be limited to easy variations of language material that the pupils have well in hand through previous careful study.

During the second year the essentials of grammar should be completed. Greater emphasis should be given during this year to reading. Some of the easy texts should be read rather rapidly, with sufficient practice in translating into English and partly at sight; others, in whole or in part, should be made the basis of oral and written exercises to increase the pupils' power in the use of the foreign language. Simple dictation and exercises in translating orally and in writing from the mother tongue should regularly accompany the intensive study of the text. This work should be supplemented by reproduction, first in English, later in simple German, of the content of short, easy 'unseen' passages read aloud by the teacher. The prepared reading in the second year should not exceed 125 pages; at least fifty pages should be read at sight.

Suitable texts for the elementary course, after 40-50 pages of very simple reading matter in a beginners' book or elementary reader, are: Andersen's *Märchen*; selections from Baumbach's short stories; Schmid's *Heinrich von Eichenfels*; Volkmann-Leander's *Kleine Geschichten*; one-act plays (such as those of Benedix); selections from Hauff's *Märchen*; Blüthgens *Das Peterle von Nürnberg*; Andersen's *Bilderbuch ohne Bilder*; Volkmann-Leander's *Träumereien*; Hillern's *Höher als die Kirche*; Gerstäcker's *Germelshausen*.

Very easy prose texts *not used for assigned work* should be read at sight. Suitable for this purpose are: Selections from Grimm's *Märchen*, Goebel's *Rübezahl*, *Die Schildbürger*, and *Till Eulenspiegel*.

b. **Intermediate** (counting one unit)

To secure credit for intermediate German, candidates will be required to offer both *b* and *y*. The regulations governing examinations and credit are the same as those stated for Elementary German.

**y. Aural Test:** (1) Writing moderately difficult German from dictation; (2) writing in German the content of an 'unseen' passage of ordinary narrative prose, read aloud by the examiner; (3) writing in German answers to oral questions, in German, on a connected passage read aloud by the examiner.

**b. Grammar, Reading, and Intermediate Prose Composition:** (1) The principles of German grammar in their application to ordinary prose, including syntax, word-order, word-formation, and indirect discourse; (2) interpretation by means of paraphrase, synonymy, or translation into English of moderately difficult prose or poetry, recent or classical; (3) translation into German of easy connected prose or the original composition in German of a simple passage.

*Aim of the Instruction.*—The aim of the intermediate course is to increase the pupils' power to read and control the foreign language. The various oral and written exercises and the sight-reading practice of the second year should be continued. In oral reading attention should be given to intonation and sentence stress as well as to correctness of pronunciation.

At the end of the course pupils should be able to read at sight selections of modern German prose or poetry not too difficult either in thought or form; to turn into German connected English prose, simple as to form and vocabulary. They should not only have a working knowledge of grammar, but also be able, if called upon, to state clearly and accurately the essential rules.

The reading (350–400 pages) should largely be confined to writers of the modern period. Some of the texts chosen should be read as quickly as is possible consistently with careful work; others should be studied more intensively for both the language and the thought.

Suitable texts for the intermediate course:

1. Narrative prose—Storm, *Immensee*; Gerstäcker, *Irrefahrten*; Zschokke, *Das Abenteuer der Neujahrsnacht*; Baumbach, *Das Habichtsfräulein*, or *Der Schwiegersohn*; Arnold, *Fritz auf Ferien*; Ebner-Eschenbach, *Krambambuli*; Riehl, *Der stumme Ratsherr*; Schücking, *Die drei Freier*; Keller, *Kleider machen Leute*; Raabe, *Die schwarze Galeere*; Otto Ernst, *Asmus Sempers Jugendland*; Seidel, *Leberecht Hühnchen*; Rosegger, *Das Holzknechthaus*; Fouqué, *Undine*; Jensen, *Die braune Erica*; Auerbach, *Brigitta*; Storm, *Pole Poppenspäler*; Frommel, *Mit Ränzel und Wanderstab*; Liliencron *Anno 1870*; Wildenbruch, *Das edle Blut*, or *Nied*, or *Der Letzte*; Frenssen, *Peter Moors Fahrt nach Südwest*; Meyer-Förster, *Karl Heinrich*; Kroner, *Zriny*.

2. Plays—Moser, *Der Bibliothekar*; Fulda, *Unter vier Augen*; Freytag, *Die Journalisten*; Fulda, *Der Talisman*, or *Das verlorene Paradies*; Schiller, *Wilhelm Tell*.<sup>1</sup>

For oral drill and colloquial practice, a book dealing with German life, customs and institutions and written in the simplest conversational German should be used.

A liberal amount of reading at sight should be done, using texts not otherwise studied and easier than the regular class texts.

<sup>1</sup> In schools with a four-years' course, *Wilhelm Tell* should be reserved for the last year. For the benefit of schools with a three-years' course, several works listed under Advanced German are indicated (marked \*) as suitable for use at the end of the third year.

## c. Advanced (counting one unit)

The Examination in advanced German is similar in form to that in Intermediate German (b), with the requirement that the candidate be able to interpret at sight any modern German prose or verse involving no technical vocabulary, and to write an original theme with reasonable fluency and correctness. An aural test is not required in Advanced German. Candidates offering Intermediate and Advanced German (bc) must take the intermediate aural test (y).

The Work to be Done in the advanced course differs from that in the preceding courses only in amount and degree. The copious reading of numerous modern texts and the intensive study of a few masterpieces selected from the classic and the modern period (in all not less than 500 pages) should occupy the major portion of the time. In addition to the kinds of oral and written work done in the previous courses pupils should have some training in writing short independent themes on simple topics. Considerable attention should also be given to the study of vocabulary as to form and meaning.

Suitable texts for the advanced course:

1. Classic drama (*one of these works should be studied intensively*): Schiller, *Wilhelm Tell*,\* *Jungfrau von Orleans*, *Maria Stuart*; Lessing, *Minna von Barnhelm*; Goethe, *Egmont*.

2. Other plays: Grillparzer, *Die Ahnfrau*\*, *Der Traum ein Leben*; Kleist, *Der Prinz von Homburg*; Wildenbruch, *Harold*; Otto Ernst, *Flachsmann als Erzieher*.

3. Narrative prose: Heine, *Die Harzreise*; Hauff, *Lichtenstein*\*; Freytag, *Soll und Haben*; Sudermann, *Frau Sorge*\*; Meyer, *Das Amulett*; Frenssen, *Jörn Uhl*; Fontane, *Grete Minde*.

4. Historical prose: Selections from Schiller, *Geschichte des Dreissigjährigen Krieges*, or from Freytag, *Bilder aus der deutschen Vergangenheit*.

5. A selection of German lyrics and ballads.

Also, Scheffel, *Der Trompeter von Säckingen*\*; Riehl, *Burg Neideck*; Heyse, *Die Blinden*\*; Hoffman, *Meister Martin der Küfer und seine Gesellen*; Freytag, *Die verlorene Handschrift*; Raabe, *Else von der Tanne*; Hoffmann, *Das Fräulein von Scuderi*; Scheffel, *Ekkehard*; Sudermann, *Der Katzensteg*.

In general, texts should be read rapidly; but see last paragraph under elementary reading list. For colloquial practice specially prepared books dealing with modern life or historical and literary material are recommended.

## GREEK

(For Comprehensive Examination. see page 48)

## Elementary (counting two or three units)

NOTE. — To secure credit for two units in Greek, candidates must offer *a*, *b*, and *g*. To secure credit for three units they must offer *a*, *b*, *c*, *f*, and *g*.

*a. i. Grammar.* — The common forms, idioms, and constructions, and the general grammatical principles of Attic Greek prose.

*ii. Elementary Prose Composition.* — Translation into Greek of detached sentences to test the candidate's knowledge of grammatical construction.

The examination in the two subjects immediately preceding will be based on the first two books of Xenophon's *Anabasis*.

- b. **Xenophon.**—The first four books of the *Anabasis*.
- c. **Homer.**—The first three books of the *Iliad* (omitting II, 494-end) and the constructions, poetical forms, and prosody of Homer's *Iliad*.
- f. **Prose Composition.**—Translation into Greek of continuous prose based on Xenophon and other Attic prose of similar difficulty.
- g. **Sight Translation of Prose.**—Translation into English at sight based on prose of no greater difficulty than Xenophon's *Anabasis*.

### Examinations

A composite paper is offered from which those desiring to be examined in Greek *a*, *b*, and *g*, or in Greek *c* and *f* or in the whole of Greek should select certain specified questions. Candidates taking the examinations in Greek given by the College Entrance Examination Board should usually take the *comprehensive* examination (see pages 22, 47).

## HISTORY

### Elementary

(*For Comprehensive Examination, see page 48*)

**NOTE.**—Each of the four divisions, *a*, *c*, *d*, and *g*, counts one unit.

- a. **Ancient History**, including a brief introductory study of the Oriental peoples, and early medieval history to the death of Charlemagne, with due reference to art, literature, and government.
- c. **Modern European History**, from about 1660 to the present time, with due reference to the growth of the state system.
- d. **English History**, with due reference to social and political development.
- g. **American History**, with the elements of civil government.

On examination a candidate must show such general knowledge of the subject in each division offered as may be acquired from the study of an accurate text-book of not less than 300 pages. *Since the questions will be so framed as to require comparison and the use of judgment rather than mere exercise of memory on the part of the pupil, it is recommended* that the teacher prescribe a course of supplementary reading of not less than 300 pages, dealing with the more important periods and events in each division offered. Geographical knowledge will be tested by requiring the location of places, boundaries, and movements on an outline map.

## ITALIAN

### Elementary (counting two units)

**NOTE.**—The examination in this subject will include an Aural Test similar in character to that described under Elementary French.

**The Aim of the Instruction.**—At the end of the course the pupil should be able to pronounce Italian accurately, to read at sight easy Italian prose, to put into Italian simple English sentences taken from the language of everyday life, or based upon a portion of the Italian text read, and to answer correctly questions on the rudiments of the grammar, as defined below.

**The Work to be Done.**—During the first year the work should comprise: (1) careful drill in pronunciation; (2) the rudiments of grammar, including the conjugation of the regular and the more common irregular verbs, the

inflection of nouns, adjectives and pronouns, and the elementary rules of syntax; (3) abundant exercises illustrating the principles of grammar; (4) the reading and accurate rendering into good English of from 100 to 175 duodecimo pages of graduated texts, with translation into Italian of easy variations of the sentences read; (5) writing Italian from dictation.

During the second year the work should comprise: (1) the reading of from 250 to 400 pages of modern prose from different authors and of easy poetry; (2) practice in translating Italian into English, and English variations of the text into Italian; (3) continued study of the elements of grammar and of syntax; (4) mastery of all but the rare irregular verb-forms and of the simpler uses of the moods and tenses; (5) writing Italian from dictation.

Suitable texts for the second year are: E. de Amicis's *Cuore*; G. Giacosa's *Acquazzoni in montagna*; P. Zambri's *Il caporale di settimana*; G. Gozzi's *Poesie e prosce, scelte da A. Pippi*; G. C. Abba's *Da Quarto al Volturno*; Guido Zalorsi's *Guardare e pensare*; S. Zarira's *Il Signor Io*; A. Stoppani's *Il bel paese*.

## LATIN

(For Comprehensive Examination, see page 49)

### Elementary

NOTE.— Candidates may offer two, three, or four units. Second year Latin alone will count as two units; second year with sight translation of either prose or verse (third year work) as three units; sight translation of prose and verse and advanced prose composition (third and fourth year work) as four units.

The entrance examinations in Latin are entirely at sight. Candidates are recommended to take the comprehensive examinations; but they may receive permission upon application to substitute the separate examinations of the College Entrance Examination Board in Latin 3 (second year Latin—if offering less than four units), *p* (sight translation of prose), *q* (sight translation of poetry), and *6* (advanced prose composition). The examinations of Columbia University will also offer an opportunity to divide the Latin tests in this way.

### Amount and Range of the Reading Required

1. The Latin reading required of candidates for admission to College, without regard to the prescription of particular authors and works, shall be, for second, third, and fourth year work respectively, not less *in amount* than Cæsar, *Gallic War*, I-IV; Cicero, the orations against Catiline, for the Manilian Law, and for Archias; Vergil, *Aeneid*, I-VI.

2. The amount of reading specified above shall be selected by the schools from the following authors and works: Cæsar (*Gallic War* and *Civil War*) and Nepos (*Lives*); Cicero (orations, letters, and *De Senectute*); and Sallust (*Catiline* and *Jugurthine War*); Vergil (*Bucolics*, *Georgics*, and *Aeneid*); and Ovid (*Metamorphoses*, *Fasti*, and *Tristia*).

### Prose Composition

The examination will demand thorough knowledge of all regular inflections, all common irregular forms, and the ordinary syntax and vocabulary of the prose authors read in school, with ability to use this knowledge in writing simple Latin prose. The words, constructions, and range of ideas called for will be such as are common in the reading of the preparatory course.

## MATHEMATICS

(For Comprehensive Examination, see page 49)

## Elementary (counting three units)

*a. Elementary Algebra* (counting two units).

i. The four fundamental operations for rational algebraic expressions; factoring, determination of highest common factor and lowest common multiple by factoring; fractions, including complex fractions, ratio and proportion; linear equations, both numerical and literal, containing one or more unknown quantities; problems depending on linear equations; radicals, including the extraction of the square root of polynomials and of numbers; exponents, including the fractional and negative.

ii. Quadratic equations, both numerical and literal; simple cases of equations with one or more unknown quantities that can be solved by the methods of linear or quadratic equations; problems depending upon quadratic equations; the binomial theorem for positive integral exponents; the formulas for the  $n$ th term and the sum of the terms of arithmetic and geometric progressions, with applications.

It is assumed that pupils will be required throughout the course to solve numerous problems which involve putting questions into equations. Some of these problems should be chosen from mensuration, from physics, and from commercial life. The use of graphical methods, and illustrations, particularly in connection with the solution of equations, is also expected.

*c. Plane Geometry* (counting one unit). The usual theorems and constructions of good text-books, including the general properties of plane rectilinear figures; the circle and the measurement of angles; similar polygons; areas; regular polygons, and the measurement of the circle; the solution of numerous original exercises, including loci problems; applications to the mensuration of lines and plane surfaces.

*Advanced* (counting one-half, one, or one and one-half units)

NOTE. — A candidate may offer one or more of the following subjects, each of which is equivalent to one-half unit.

Students who offer Plane Trigonometry at entrance must take Mathematics A5 in the freshman year.

*b. Advanced Algebra.* — Permutations and combinations, limited to simple cases; complex numbers, with graphical representation of sums and differences; determinants, chiefly of the second, third, and fourth orders, including the use of minors and the solution of linear equations; numerical equations of higher degree, and so much of the theory of equations, with graphical methods, as is necessary for their treatment, including Descartes's rule of signs and Horner's method, but not Sturm's functions or multiple roots.

*d. Solid Geometry.* — The usual theorems and constructions of good text-books; including the relations of planes and lines in space; the properties and measurements of prisms, pyramids, cylinders, and cones; the sphere and the spherical triangle; the solution of numerous original exercises, including loci problems; applications to the mensuration of surfaces and solids.

*f. Plane Trigonometry.* — Definitions and relations of the six trigonometric functions as ratios, circular measurement of angles; proofs of principal formulas, in particular for the sine, cosine, and tangent of the sum and the difference of two angles, of the double angle and the half angle, the product expressions for the sum or the difference of two sines or of two cosines, etc.;

the transformation of trigonometric expressions by means of these formulas; solutions of trigonometric equations of a simple character; theory and use of logarithms (without the introduction of work involving infinite series); the solution of right and oblique plane triangles, and practical applications.

### MUSIC (counting one unit)

NOTE.—The candidate may offer either *a* or *b*.

#### *a. Musical Appreciation* (counting one unit)

The candidate is expected to have:

1. A general knowledge of the principal musical forms—song, classic dance, fugue, sonata (all movements), symphony—and of their historical development.

2. A general knowledge of the lives and environment of at least ten composers, including Bach, Mozart, Beethoven, Schubert, Chopin, and five of the following: Handel, Gluck, Haydn, Weber, Mendelssohn, Schumann, Wagner, Verdi, Brahms, Tschaikowsky, Grieg, MacDowell.

3. <sup>1</sup> Familiarity with certain designated works: *Bach*, Prelude II and Fugue II, Book I, Well-Tempered Clavichord, Gavotte from Sixth English Suite; *Handel*, The Hallelujah Chorus; *Haydn*, Slow Movement from 'Emperor' Quartet (op. 76, No. 3); *Mozart*, Symphony in G Minor (entire); *Beethoven*, Sonata (op. 31, No. 3 entire), Slow Movement from Second Symphony, First Movement from Seventh Symphony; *Schubert*, First Movement from Unfinished Symphony, Song, 'The Erl-King', Song, 'Hark, Hark, the Lark'; *Mendelssohn*, Overture to 'Midsummer Night's Dream'; *Chopin*, Ballade (op. 47), Polonaise (op. 26, No. 1), Nocturne (op. 37, No. 2); *Schumann*, Allegro from Faschingsschwank (op. 26, No. 1), Song, 'Im wunderschönen Monat Mai'; *Wagner*, Overture to 'Tannhäuser', Prize Song from 'Die Meistersinger'.

In the examination in (3) the candidate will be expected to identify characteristic portions of the works set, when played by the examiner, and to give intelligent information concerning the form and character of the works themselves. The test will not require ability to perform or to read from printed music.

#### *b. Harmony* (counting one unit)

The candidate should have acquired:

1. The ability to harmonize, in four vocal parts, simple melodies of not fewer than eight measures, in soprano or in bass—these melodies will require a knowledge of triads and inversions, of diatonic seventh chords, and inversions, in the major and minor modes; and of modulation, transient or complete, to nearly-related keys.

2. Analytical knowledge of ninth chords, all non-harmonic tones, and altered chords (including augmented chords). (Students are encouraged to apply this knowledge in their harmonization.)

It is urgently recommended that systematic ear-training (as to interval, melody, and chord) be a part of the preparation for this examination. Simple exercises in harmonization at the pianoforte are recommended. The student will be expected to have a full knowledge of the rudiments of music, scales, intervals, and staff-notation, including the terms and expression marks in common use.

<sup>1</sup> The examination in (3) will be held only in September and will be open only to candidates who have passed the examination in (1) and (2).

## PHYSICS (counting one unit)

(For Comprehensive Examination, see page 49)

The candidate should be familiar with the elementary principles of physics and some of their practical applications and should be able to solve simple numerical problems. The preparation of the candidate should include:

- (a) The study of one of the standard text-books in use in secondary schools.
- (b) Instruction by lecture-table demonstrations in which the phenomena of physics are shown and the principles qualitatively illustrated.
- (c) Individual laboratory work, comprising at least thirty exercises. A suitable selection of experiments may be made from the list published by the College Entrance Examination Board.

A teacher's certificate of laboratory work must be presented. (See page 49.) *The candidate must be prepared to submit an indexed note-book of her laboratory work, in case the rest of her record in the subject, including the certificate, is not fully satisfactory.*

## PHYSIOGRAPHY (counting one unit)

NOTE.—This is identical with the subject called Geography by the College Entrance Examination Board.

The candidate's preparation in physiography should include the study of one of the modern text-books by Davis, Tarr, Dryer, or Gilbert and Brigham, together with an approved laboratory and field course of at least forty exercises actually performed by the candidate. Each division of the subject should receive approximately the same proportion of attention in the laboratory as in the class-work. It is suggested that the exercises be divided somewhat as follows: Earth as a Globe, 5; Ocean, 5; Atmosphere, 12; Land, 18.

A teacher's certificate of laboratory work must be presented. (See page 49.) *The candidate must be prepared to submit an indexed note-book of her laboratory work, in case the rest of her record in the subject, including the certificate, is not fully satisfactory.*

## SPANISH

(For Comprehensive Examination, see page 49)

## a. Elementary (counting two units)

NOTE.—The entrance examinations in Elementary and Intermediate Spanish will include an Elementary Aural Test to be designated Spanish *x* supplementary to the present examination, designated Spanish *a*, and an Intermediate Aural to be designated Spanish *y* supplementary to the present examination which is designated *b*. The candidates in *x* and *y* will be examined in groups of not more than seventy-five in order that the examiner may be heard without difficulty.

These tests will be given in September for candidates taking the other examinations in the subject in either June or September.

The aural test (*x*) will consist of three parts:

1. A ten-minute exercise in writing easy Spanish prose from dictation.
2. Written reproduction, in English, of the content of a short passage in easy Spanish prose, to be read by the examiner.
3. Written answers in Spanish to easy questions read by the examiner in Spanish, the questions to be of two types: (a) On general topics, such as would be used in elementary practice of the school-room. (b) On a connected prose passage, to be read by the candidates (and returned) just before the questions are asked.

*The Aim of the Instruction.*—At the end of the course, the pupil should be able to pronounce Spanish accurately, to read at sight easy Spanish prose, to put into Spanish simple English sentences taken from the language of everyday life, or based upon a portion of the Spanish text read, and to answer questions on the rudiments of the grammar, as defined below.

*The Work to be Done.*—During the first year the work should comprise: (1) careful drill in pronunciation; (2) the rudiments of grammar, including the conjugation of the regular and the more common irregular verbs, the inflection of nouns, adjectives, and pronouns, and the elementary rules of syntax; (3) exercises containing illustrations of the principles of grammar; (4) the reading and accurate rendering into good English of from 100 to 175 duodecimo pages of graduated texts, with translation into Spanish of easy variations of the sentences read; (5) writing Spanish from dictation.

During the second year the work should comprise: (1) the reading of from 250 to 400 pages of modern prose from different authors; (2) practice in translating Spanish into English, and English variations of the text into Spanish; (3) continued study of the elements of grammar and syntax; (4) mastery of all but the rare irregular verb-forms and of the simpler uses of the moods and tenses; (5) writing Spanish from dictation.

Suitable texts for the second year are: Valera's *El pájaro verde*; Alarcón's *El capitán Veneno*; Valdés's *José*; Padre Isla's version of *Gil Blas*; Carrion and Aza's *Zaragüeta*; Ford, *Spanish Fables in Verse*; Morrison, *Tres comedias modernas*.

#### *b. Intermediate* (counting one unit)

To secure credit for Intermediate Spanish, candidates will be required to offer both *b* and *y*. The regulations governing examinations and credit are the same as those stated for Elementary Spanish.

*y. Aural test:* (1) Writing moderately difficult Spanish from dictation; (2) writing in Spanish the content of an 'unseen' passage of ordinary narrative prose read aloud by the examiner; (3) writing in Spanish answers to oral questions, in Spanish, on a connected passage read aloud by the examiner.

*b. Grammar, reading, and intermediate prose composition:* (1) The principles of Spanish grammar in their application to ordinary prose; (2) interpretation by means of paraphrase, synonymy, or translation into English of moderately difficult prose or poetry, recent or classical; (3) translation into Spanish of easy connected prose or the original composition in Spanish of a simple passage.

*The Aim of the Instruction.*—At the end of the intermediate course the pupil should be able to read at sight ordinary Spanish prose or simple poetry, to translate into Spanish a connected passage of English based on the text read, and to answer questions involving a more thorough knowledge of syntax than is expected in the elementary course.

*The Work to be Done.*—This should comprise the reading of from 400 to 600 pages of Spanish of ordinary difficulty, a portion to be in the dramatic form; constant practice in giving Spanish paraphrases, abstracts, or reproductions from memory of selected portions of the matter read; the study of a grammar of moderate completeness; writing from dictation.

Suitable texts for the third year are: Benavente: *Tres comedias*; Moratin: *El si de las niñas*; Galdós: *Doña Perfecta*; Valdés: *La hermana San Sulpicio*; Becquer: *Legends, Tales and Poems*.

## ZOÖLOGY (counting one unit)

The following outline includes the principles of zoölogy which are indispensable to a general survey of the science. It is planned for a full year's course. It is not intended to indicate order of study of the topics — this must be left to the teacher and the text-book.

1. The general natural history — including general external structure in relation to adaptations, life histories, geographical range, relations to other plants and animals, and economic relations — of common vertebrates and invertebrates so far as representatives of these groups are obtainable in the locality where the course is given. The types suggested are a mammal, bird, lizard, snake, turtle, newt, frog, dogfish or shark, bony fish, clam, snail, starfish, earthworm, planarian, hydra, sea-anemone, paramaecium. In the case of arthropods, pupils should become familiar with common crustaceans, spiders, myriapods, and insects representing at least five orders. Actual examination of common animals with reference to the above points should be supplemented by reading giving natural-history information.

It is not expected that there will be time for making extensive note-books on the natural-history work; rather will the work in this line take the form of laboratory demonstrations. So far as time permits, drawings and notes should be made. The note-book mentioned below should contain at least drawings on the external structure of four animals not studied under Section 3, preferably two insects, a mollusk, and a second vertebrate.

2. The classification of animals into phyla and leading classes (except the modern subdivisions of the worms) and the great characteristics of these groups — in the case of insects and vertebrates the characteristics of the prominent orders. The teaching of classification should be by practical work so as to train the pupil to recognize animals and to point out the chief taxonomic characteristics. The meaning of species, genera, and larger groups should be developed by constructive practical work with representatives of insect or vertebrate orders.

3. The general plan of external and internal structure, not the anatomical minutiae, of one vertebrate (preferably frog or fish) in general comparison with the human body; an arthropod (preferably a decapod); an annelid (earthworm or *Nereis*); a coelenterate (hydroid, hydra, or sea-anemone); a protozoön (a ciliate, and amœba when possible). In place of any of the above types not locally available there may be substituted a second vertebrate, an insect, a mollusk, or an echinoderm. Tissues, the study of which is recommended as optional,<sup>1</sup> should be examined first with the unaided eye, in such structure as a frog's leg, and then with a microscope to demonstrate the relation of cells and intercellular substance in epithelium and cartilage and if possible, in other tissues. The functions of the chief tissues and their positions in the body of a vertebrate should be pointed out.

4. (a) The general physiology of the above types, involving the essentials of digestion, absorption, circulation (respiration), cell-metabolism, secretion, excretion, and nervous functions. This should apply comparatively the essentials of elementary work in human physiology. Demonstrations and experiments, such as are suggested in high school text-books on human physiology, should be introduced, or recalled if not previously well presented in elementary physiology, in connection with discussion of the chief functions. As far as practicable structure and function should be studied together.

<sup>1</sup> Topics marked 'optional' are regarded as desirable for the best high school zoölogy, but will not be required in examination.

(b) Comparison of the general life-processes in animals and plants (in connection with botany if zoölogy is first studied).

5. The very general features of asexual reproduction of a protozoön (preferably *Paramaecium*); alternation of generations in hydroids; reproduction and regeneration of *Hydra*; the very general external features of embryological development in a fish or frog; and (*optional*) the general cellular nature (not centrosomes and the like) of germ-cells, fertilization, and cell-division in developing eggs should, as far as possible, be demonstrated and briefly described. Also, the most interesting features of development should be pointed out in the case of other animals studied.

6. The prominent evidence of relationship suggesting evolution, within such groups as the decapods, the insects, and the vertebrates should be demonstrated. A few facts indicating the struggle for existence, adaptation to environment, variations of individuals, and man's selective influence should be pointed out; but the factors of evolution and the discussion of its theories should not be attempted.

7. (*Optional.*<sup>1</sup>) Some leading facts regarding the epoch-making discoveries of biological history and the careers of such eminent naturalists as Darwin, Huxley, Pasteur, and Agassiz should be presented.

The above outline of a course in general zoölogy should be developed on the basis of a course of laboratory study guided by definite directions. This should be supplemented by the careful reading of at least one modern elementary text-book in general zoölogy. At least two-thirds of the time should be devoted to the practice studies of the laboratory. If good nature-studies have not preceded the course in high school zoölogy, pupils should be encouraged to do supplementary work in the line of natural history.

A teacher's certificate of laboratory work must be presented. (See page 49.) *The candidate must be prepared to submit an indexed note-book of her laboratory work, in case the rest of her record in the subject, including the certificate, is not fully satisfactory.*

## DESCRIPTION OF COMPREHENSIVE EXAMINATIONS

**Chemistry.**—The examination will be adapted to the proficiency of those who have received systematic instruction in the principles of chemistry and their application in a school course in which laboratory experiments are performed by the pupil. In order to make due allowance for diversity of instruction in different schools, the paper will contain more questions than the candidate is expected to answer, and will require the recognition of the phenomena and of the laws that are of general significance, and the illustration of such phenomena and laws by well-chosen examples. It will include not only questions on the chemistry of laboratory practice but also, in an elementary fashion, questions on the chemistry of the household and of industry.

**English.**—The purpose of this examination will be to test the ability of the candidate to write clearly and correctly, and to show that she has read, understood, and appreciated a sufficient amount of English literature. The paper will contain some questions that cannot be answered except by candidates who are able to apply what they have learned to the solution of unexpected problems. Success in the examination will not necessarily depend upon

<sup>1</sup> Topics marked 'optional' are regarded as desirable for the best high school zoölogy, but will not be required in examination.

a knowledge of the subject-matter of the particular books prescribed in the 'Uniform Entrance Requirements in English' (see page 32), though no candidate who has been intelligently prepared under these requirements should find herself at any disadvantage.

**French.**—The examination will be adapted to the proficiency of those who have studied French in school for two, three, or four years.

The paper will include passages of French prose or verse or both of varying degrees of difficulty to be translated into simple and idiomatic English. It will also contain passages in English of varying degrees of difficulty to be translated into French, and questions on grammar. Opportunity will be given to those who have had special training in French to show their ability to express themselves in that language.

**German.**—The examination will be adapted to the proficiency of those who have studied German in school for two, three, or four years.

The paper will include passages of German prose or verse or both of varying degrees of difficulty to be translated into simple and idiomatic English. It will also contain passages in English of varying degrees of difficulty to be translated into German, and questions on grammar. Opportunity will be given to those who have had special training in German to show their ability to express themselves in that language.

**Greek.**—The examination will be adapted to the proficiency of those who have studied Greek in a systematic school course of five exercises a week, extending through two or three school years.

The paper will include passages of simple Attic prose and of Homer to be translated at sight, and questions, based upon these passages, to afford the candidate means of showing her mastery of the ordinary forms, constructions, and idioms of the language. The paper will also include passages in English to be turned into Greek, and questions on prosody, on the Homeric poems, and on Homeric life.

**History.**—The paper will consist of five divisions made up of questions on Ancient History, Medieval and Modern History, Modern European History (including English History from 1760), English History, and American History (including Civil Government). The questions on each division will be partly prescribed and partly optional. If the candidate has studied but one of these divisions, she will be expected to answer the prescribed questions on that division, one of them being a map question. She should spend about two hours on these prescribed questions and should devote the remaining hour to the optional questions on the same division. If, on the other hand, the candidate has studied two or more of these divisions, she will be expected to answer, in addition to the prescribed questions on *one* of these divisions, questions on *one* other division that she may have studied.

In reading the papers, account will be taken of the year of the school program in which the subject has been studied. As further evidence of the candidate's proficiency, note-books<sup>1</sup> may be submitted.

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<sup>1</sup> The College Entrance Examination Board does not require or receive note-books. Candidates wishing to submit note-books must forward them directly to the proper authorities of the university, college, or scientific school concerned.

**Latin.**—The examination will be adapted to the proficiency of those who have studied Latin in a systematic school course of five lessons each week, extending through two, three, or four years.

The paper will include passages of Latin prose and verse of varying degrees of difficulty to be translated at sight, and passages for Latin composition of varying degrees of difficulty. Accompanying the different passages set upon the paper will be questions on forms, syntax, and the idioms of the language, as well as questions on the subject-matter, literary and historical, connected with the authors usually read in schools.

Each candidate will choose those parts of the paper which are designed to test such proficiency in the language as may properly be acquired in two, three, or four years' study; but a candidate who has studied Latin four years may not select the more elementary parts of the paper. The proper parts will be indicated on the examination paper.

**Mathematics.**—The examination will be adapted to the proficiency of those who have had not less than the usual school course in Elementary Mathematics, comprising Algebra through Quadratics and Plane Geometry, and will also provide the means by which those who have extended their study to one or more branches of Advanced Mathematics, namely, Solid Geometry, Logarithms and Trigonometry, and Advanced Algebra, may exhibit their proficiency in any or all of these branches of Mathematics. There will be two papers, one for those who have had no instruction beyond Elementary Mathematics and one for those whose instruction has gone farther. Every candidate who has received instruction beyond Elementary Mathematics will be expected to take the paper containing questions on Advanced Mathematics, and to devote at least half her time to those questions which are based on the Advanced Mathematics she has studied.

**Physics.**—The examination will be adapted to the proficiency of those who have had a course of school training in the elementary facts and principles of physics as is described in the detailed definition of Physics. In order to make due allowance for diversity of instruction in different schools, the paper will contain more questions than the candidate is expected to answer.

**Spanish.**—The examination will be adapted to the proficiency of those who have studied Spanish in school for two or three years.

The paper will include passages of Spanish prose or verse or both of varying degrees of difficulty to be translated into simple and idiomatic English. It will also contain passages in English of varying degrees of difficulty to be translated into Spanish, and questions on grammar. Opportunity will be given to those who have had special training in Spanish to show their ability to express themselves in that language.

#### NOTE-BOOKS, DRAWINGS, ETC.

Each candidate must present at the time of examination a certificate from her teacher certifying that the laboratory requirements in each science offered by the candidate have been complied with. A statement of the laboratory requirements in the several sciences will be found in the preceding pages. This regulation applies also to drawing. In all doubtful cases the candidate will be

required to submit a laboratory note-book. *This regulation applies to candidates using College Entrance Examination Board, Columbia University, State Education Department, or any other entrance examinations.*

Blank forms may be obtained on application to the Secretary of the College.

## REGISTRATION

**Registration.** — Before attending any University exercise each student shall comply with the regulations in regard to registration and payment of fees. She shall present herself in person at the office of the Registrar and shall there file a registration blank giving such information as may be required for the College records.

Every new student shall also at the time of registration file a statement of the courses which the Provost, on the recommendation of the Committee on Instruction, has authorized her to pursue. Students already in College shall give notice of their choice of elective courses for the ensuing year to the Registrar on or before Friday, May 6, 1921.

The office of the Registrar will be open for registration from Friday, September 23, to Tuesday, September, 27, 1921, and on Monday and Tuesday, February 6 and 7, 1922. New students may register also on Wednesday, September 28, 1921.

Students registering late are charged an additional fee of \$6 and are held accountable for absences thus incurred.

Each student who holds a scholarship shall present her scholarship certificate to the Bursar *at the time of registration*.

Each person whose registration has been completed will be considered a student of the University during the period for which such registration is held valid. No student registering in Barnard shall at the same time be registered in any other school or college, either of Columbia University or of any other institution, without the consent of the Dean.

**Withdrawal.** — An honorable discharge will always be granted to any student in good academic standing, and not subject to discipline, who may desire to withdraw from the College, but no student under the age of twenty-one years shall be entitled to a discharge without the assent of her parent or guardian furnished in writing to the Dean. Students withdrawing are required to notify the Registrar. Application for the return of fees must be made in writing at the time of withdrawal.

## GENERAL STATEMENT REGARDING FEES AND THE REGULATIONS GOVERNING THEIR PAYMENT

**All fees are payable semi-annually in advance at the Bursar's Office,** and no reduction is made for late registration. Under the regulations, the privileges of the College are withheld from any student delinquent in the payment of her fees.

The fees to be paid by students are subject to change at any time in the discretion of the Trustees.

The registration fee must be paid at the time of entrance. No official record of a student's attendance can be noted until this fee has been paid.

Checks in payment of fees should read "Pay to the order of Barnard College."

Checks in payment of undergraduate dues should read "Pay to the order of Treasurer Undergraduate Association."

No application for a return of fees can be considered unless made in writing at the time of withdrawal.

## FEES

**Registration Fee**, payable in two equal instalments, at the beginning of each session . . . . . \$12.00

This fee is never refunded.

**Late Registration Fee** (see p. 50) . . . . . 6.00

**Tuition Fee**, payable in two equal instalments, at the beginning of each session . . . . . 250.00

Regular students are charged \$250.00 for the year, \$125.00 for each session.

Special or part-time students are charged at the rate of \$12.50 a point for instruction with a maximum fee of \$250.00 for the year.

If the entire fee is less than \$100.00, the whole must be paid upon registration.

**Examination Fee**, payable in each case before the examination is held:

For entrance (see p. 21) for each series . . . . . 6.00

For late application . . . . . 6.00

For deficiency and for special examinations . . . . . 6.00  
with a maximum fee for examinations in a single series of . . . . . 30.00

(A special or deficiency examination is one taken at any other time than at the conclusion of a course actually attended, whether taken prior or subsequent to admission)

For the degree . . . . . 20.00

**Deposits** for the use of apparatus, material, and the like, are required in:

Chemistry 63, 64, each course . . . . . 10.00

Chemistry 41, 42, 65, 66, each course . . . . . 12.50

Chemistry 42a, 105, 106, 145, 146, each course . . . . . 15.00

## FEES OF STATE SCHOLARS

**Holders of State Scholarships** should file their University Scholarship Certificates at the office of the Bursar *on the day of registration* and should be prepared to pay, at the same time, the following fees:

Registration fee . . . . . \$6.00

Tuition fee . . . . . 75.00

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\$81.00

February payment:

Registration fee . . . . . \$6.00

Tuition fee . . . . . 75.00

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\$81.00

The certificates will be held in the Bursar's office until the State funds have been received; they will then be returned to the candidates. A bulletin-board notice will give information as to when they may be claimed.

#### UNDERGRADUATE ASSOCIATION DUES

**Undergraduate Association Dues** payable by all members of the Undergraduate Association to the *Treasurer of the Association* at the time of registration (see p. 75) . . . . . \$5.00

#### DORMITORY FEES IN BROOKS HALL AND JOHN JAY HALL

**Deposit** . . . . . \$15.00

Payable in advance to secure assignment of room, and held until final closing of accounts for the year as security for damage to rooms, fittings, or furniture, or for any other indebtedness.

**Electricity**, charged for by meter.

#### Board

Payable in two equal instalments in advance, on or before taking possession of room, and on February 1.

Brooks Hall	300.00
John Jay Hall	275.00

#### Rent

Payable in two equal instalments in advance, on or before taking possession of room, and on February 1.

Single rooms in Brooks Hall (a few with private bath)	155-290.00
Double rooms in Brooks Hall (very few) for each student	155.00
Single rooms in John Jay Hall	125-346
Double rooms in John Jay Hall, for each student	145-328

*Some scholarship grants of \$50 each are available for students who cannot meet the entire cost of residence.*

#### ESTIMATED NECESSARY EXPENSES

Board and room in Brooks Hall, \$455 to \$590 for the academic year.

Board and rent in John Jay Hall, \$400 to \$621.

*Some scholarship grants of \$50 each are available for students who cannot meet the entire cost of residence.*

Electricity, \$5.

Registration fee, \$12.

Annual tuition fee, \$250.

Undergraduate Association dues, \$5.

Text-books, from \$10 to \$20 each year.

Gymnasium costume, averaging \$12.

Final examination for the degree, \$20.

## THE PROGRAM OF STUDIES

Upon satisfactory completion of a curriculum arranged on the plan to be described below (pp. 55-58) the student is recommended by the Faculty of Barnard College to the Trustees of Columbia University for the degree of Bachelor of Arts. Diplomas are issued only at Commencement, and in February and October, upon the completion of the requirements for the degree.

The principles of the program of studies are as follows:

1. Studies are specifically prescribed, *i. e.*, obligatory upon all candidates for a degree, or required to be in certain subjects without the prescription of specific courses, or elective, *i. e.*, to be taken, with certain restrictions, at the pleasure of the student.

2. Prescribed studies, with the exception of Economics A and Zoölogy C, must be taken as far as practicable during the first two years of residence; and subjects taken in college which are continuations of subjects offered at entrance must be taken as far as possible in the first year.

3. No courses other than those specified in the Announcement may be taken except by students specially qualified to pursue them with advantage and with the consent of the Provost, on the recommendation of the Committee on Instruction.

4. No combination of courses amounting to less than 12 or more than 16 points may be made in any winter or in any spring session without the consent of the Provost, on the recommendation of the Committee on Instruction.

5. No credit will be given for a one-hour course, unless it is taken in connection with and as a supplement to a cognate course.

6. No more than four hours of class work, or its equivalent in laboratory work, or seven hours of class work and laboratory work combined, may be taken on the same day.

7. Students entering by transfer from other colleges are required to take at least 6 points of their major subject at Barnard.

8. Admission to courses depends upon completion of the prerequisites as stated for each course. In all cases the requirements as to prerequisites for any course must be completed before the beginning of the winter or of the spring session in which the course is given. Where no prerequisite is stated and where no limitation is noted the course may be taken for a degree by any student of the college.

9. To be recommended for a degree, a student must have made at least 84 points in actual college residence, and at least 24 of these while registered in Barnard College, of which 24 points at least half should be taken during the senior year.

10. All requirements for a degree must be fulfilled by the candidate within six years from the time of her first matriculation as a freshman in college, whether at Barnard or elsewhere; within four and a half years from similar matriculation as a sophomore; within three years from matriculation as a junior; and within one and a half years from similar matriculation as a senior. If the candidate fails to satisfy the requirements within the time here specified, she is to lose credit for all the points gained by her toward the degree unless, in individual cases, the Faculty shall otherwise direct.

11. No change of program, either by adding or by dropping a course, may be made by a student without the written consent of the Provost, on recommendation of the Committee on Instruction. Except on the initiative of the departments or of the Committee on Instruction, such change will be allowed only in the first two weeks of the winter session and in the two weeks *preceding the opening of the spring session*. Applications by students for change of program for the winter session must be filed during the first two weeks of that session; applications for change of program for the spring session must be filed *before that session begins*. Until action is taken upon the application, the student must attend the courses originally named in her program.

12. The election of specific courses in University Extension or in a summer session at Columbia University or elsewhere must be approved by the Committee on Instruction of Barnard College. No student who has received a grade of D or F during the preceding academic year will be allowed to count more than 6 points of work taken in a summer session, unless the Committee on Instruction shall otherwise decide. In no case may more than three courses or 8 points of work be counted in a summer session in any one year. No summer session course that is passed with a grade below C will be credited toward a Barnard degree.

13. Courses in University Extension approved by the Committee on Instruction may be credited toward the degree of A.B. for matriculated students registered in University Extension who maintain a grade of at least C.

Students of Barnard will be allowed to attend extension courses which are approved by the Committee on Instruction, and to count them toward the degree of A.B. under the following regulations.

(a) The election of extension courses must be approved by the Committee on Instruction and by the Director of University Extension.

(b) Students will not be allowed to exceed a total of 16 points, including the points of extension courses, at one time, save with the special permission of the Committee on Instruction, for reasons of weight.

(c) Students desiring to count these courses toward the degree of A.B. must obtain in them a grade of at least C.

Before final choice of elective studies, all students should consult their advisers (see p. 62), the Committee on Instruction, and, in case of any doubt, the instructors in charge of particular courses as well. Electives must be chosen on some consistent plan. Conflicts between courses falling at the same hours are to be avoided by careful study of the Scheme of Attendance at the end of this volume, which has been drawn up with a view to making possible for every one the selection of a reasonable number of harmonious elective courses that shall not conflict in hours with each other or with prescribed courses. It often happens that some of the courses of one department form valuable supplements to certain courses of another, so that combinations of work under two or more departments are very desirable. In all such cases the best selections can be made only after consultation with officers of one or more of the departments concerned. This applies particularly to the major subject (see below, pp. 55, 56).

REQUIREMENTS FOR ALL CANDIDATES FOR THE DEGREE OF  
BACHELOR OF ARTS

(Except those in the Special Honors Course)

The requirement for graduation for members of the Class of 1923 and thereafter is 120 points, exclusive of prescribed work in Physical Education. The term point usually signifies the satisfactory completion of work requiring attendance at class one hour or in the laboratory two hours a week during a winter or spring session.

The subjects treated in the courses offered in Barnard College may be classified in the following groups:

## I. Languages, Literatures, and other Fine Arts:

Architecture, English, Fine Arts, French, German, Greek, Italian, Latin,  
Music, Romance Philology, Spanish.

## II. Natural Sciences:

Anthropology, Astronomy, Botany, Chemistry, Geography, Geology,  
Mathematics, Mineralogy, Physics, Experimental Psychology, Zoölogy.

## III. Social Sciences:

Anthropology, Classical Civilization, Economics, Education, Geography,  
Government, History, Philosophy, Introductory Psychology, Religion,  
Sociology.

It will be observed that the prescription of courses insures a fair distribution of work among these different groups. The student should bear them in mind in selecting related subjects.

## I. Specific Courses Prescribed

English A . . . . .	6 points
English X . . . . .	0 points
History A . . . . .	6 points
Mathematics A . . . . .	6 points
Philosophy A <sup>1</sup> . . . . .	3 points
Psychology A <sup>1</sup> . . . . .	3 points
Economics A . . . . .	6 points
Zoölogy C . . . . .	2 points
Physical Education A, B, C, and D	

## II. Subjects Required Without Prescription of Specific Courses

**A Major Subject** of at least 24 points of not less than grade C must be taken in some one subject under some one department. The major may include all courses except English A, English X, French 1-2, German 1-2, Italian 1, and Spanish 1.

**A Minor Subject** of at least 12 points. The minor may include all courses except English A, English X, French 1-2, German 1-2, Italian 1, and Spanish 1.

## The Classical Requirement

All students who have entered on 2 or more units of Latin or Greek are required to take at least 6 points of Latin or Greek language, classical literature (in translation), classical civilization, ancient history, or ancient philosophy.

<sup>1</sup> Unless Philosophy 61-62, 6 points, is substituted in the junior or senior year for Philosophy A or for both Philosophy A and Psychology A.

All students who have offered neither Latin nor Greek at entrance are required to take Latin 1-2 (8 points), or Greek 1-2 (8 points), or 12 points in classical literature (in translation), classical civilization, ancient history, or ancient philosophy.

#### **The Foreign Language Requirement**

All students for the degree must, *before the beginning of the senior year*, satisfy the following requirements:

They must demonstrate to the Department of Romance Languages or to the Department of Germanic Languages (a) their ability to read at sight either French prose or German prose of ordinary difficulty and (b) their ability to understand spoken French or spoken German and use the language in expressing connected ideas. Ordinarily work equivalent in difficulty to French 3-4 or German 5-6, with practice in writing and speaking the language, should enable students to pass this test.

As a rule the departmental test prescribed under this requirement will take the form of an oral examination in translation at sight. It may be taken during the month of March or the month of November *before May 1 of the junior year*. *Only four trials in either language are allowed.*

In addition to the foregoing requirement, students must have such sound acquaintance with one other foreign language, ancient or modern, as would be equivalent to not less than three entrance units in the language, such proficiency to be determined by entrance examinations, by special tests, or by specific college courses, recommended for that purpose by the departments concerned under the approval of the Faculty.

#### **The Natural Science Requirement**

At least 8 points in one of the following natural sciences: botany, chemistry, geology, physics, experimental psychology, or zoölogy.

#### **The Fine Arts Requirement**

At least 6 points in literature (in any language), music, architecture, or fine arts courses. English A and X, the elementary language courses (such as French 1-2), linguistic courses (such as English 15) and composition courses (such as Latin 19-20) do not count toward these 6 points.

### **III. Program of Studies for the Degree of Bachelor of Arts with the Certificate in Science or Mathematics**

Candidates for the degree of Bachelor of Arts who desire to specialize in the natural sciences or in mathematics may elect the foregoing program of studies with the modifications given below. For the satisfactory completion of the specified requirements they will receive on graduation a certificate which will indicate the nature of the program of studies pursued.

This program of studies is the same as the foregoing program, except in the following specific respects:

**A Major Subject**<sup>1</sup> of at least 28 points (instead of 24 points) of not less than grade C in one of the following natural sciences: astronomy, botany, chemistry, geography, geology, mineralogy, physics, experimental psychology, and zoölogy, or in mathematics, and

<sup>1</sup> Zoölogy C may not be counted as part of a major, or a minor subject, or of the grouped work amounting to 60 points.

**Two Minor Subjects**<sup>1</sup> of at least 12 points each (instead of one minor of 12 points), one in a subject allied to the major, and one in a diverse subject, both to be chosen from the foregoing list with the addition of anthropology.

**Additional Grouped Work**<sup>1</sup> in science, or in mathematics, or in science and mathematics, amounting to at least 8 points, so as to make a total of at least 60 points in science, or in science and mathematics.

#### SPECIAL HONORS COURSE LEADING TO THE DEGREE OF BACHELOR OF ARTS

Recent legislation by the Faculty provides that students of exceptional ability may substitute for the course as at present prescribed (pp. 55, 56) and for the usual requirement of 120 points (exclusive of Physical Education), a course of special study in a single subject or in a group of related subjects. Students admitted to this course are not, however, excused from the major and the language requirement or from the customary supervision by the Department of Physical Education. Four years of college work, after admission to college without conditions, is the minimum time for the completion of this course.

Students may be admitted to this course at the beginning of the Freshman year as a result of exceptionally high standing in the College Entrance Board or the Columbia University entrance examinations and the strong recommendation of preparatory schools as to their unusual ability, maturity, and promise; at the beginning of the Sophomore and Junior years as a result of excellent college work; provided that they satisfy, in September, such additional tests as the Committee on Instruction may determine. The appropriate department or group of departments will then take charge of a student's work and, subject to the approval of the Faculty, determine the work still to be pursued for the Bachelor of Arts degree. Except in the senior year, the manner of testing proficiency will rest with the department in charge. In the senior year regular examinations will be omitted, and every student must pass at the end of the year a comprehensive examination covering her curriculum. Entrance into this special course is optional with students who are eligible. Such qualified students as enter it will be regarded as honor students.

#### PROGRAM FOR STUDENTS ADMITTED BY TRANSFER FROM OTHER COLLEGES

The recent legislation of the Faculty also provides that students transferring to Barnard College with sufficiently good records from other colleges, may, subject to the approval of the Committee on Instruction, be exempt from courses specifically prescribed by Barnard for the year or years immediately preceding their entrance into Barnard, but not from the major or

<sup>1</sup> Zoölogy C may not be counted as part of a major, or a minor subject, or of the grouped work amounting to 60 points.

the language requirement. Such students, if sufficiently able, are eligible for the special honors course described above (p. 57).

The administration of the foregoing provision will be in accordance with the following principles and rules:

1. Such students should have completed at entrance or at other colleges the equivalent of the entrance requirements to Barnard College, as may be determined by the University Committee on Admissions.

2. In general, students who have been accepted by the Committee on Admissions for entrance by transfer to Barnard College, will be admitted to the class to which their previous entrance and college record entitles them. This implies that they will ordinarily be excused from courses specifically prescribed by Barnard for the year or years immediately preceding such transfer. In all cases, however, the Committee on Transfers will determine, in conference with the student, in view of her previous academic record, her experience and maturity, her intellectual interests and professional plans, the prescribed work from which she may not be excused. In certain cases a year of probation may be required before the status of the student is exactly fixed.

#### PREPARATION FOR PROFESSIONAL SCHOOLS

Students who intend to transfer to professional schools are of two classes, those who leave Barnard at the end of the sophomore year, without candidacy for the Bachelor of Arts degree, and those who at the end of the junior year wish to take advantage of the 'combined course', counting the first year of an approved professional school in place of the senior year at Barnard.

Students intending to transfer to professional schools without candidacy for the degree of Bachelor of Arts are required to take English A, English X, Physical Education throughout their stay at Barnard, and such other courses as are appropriate in preparation for the professional school to which the transfer is to be made. (See Architecture, Business, Journalism, Medicine, pp. 59, 60.)

Students who wish to count the first year of a professional school in place of the senior year at Barnard should complete at Barnard 86 points of academic work. This must include all specifically prescribed courses, three years of Physical Education, the required subjects outlined under paragraph II (page 55)—except that they need complete only 18 points in the major subject—and such courses as the professional school may recommend. Students who have met these requirements may, on satisfactory completion of the first year in an approved professional school, become candidates for the degree of Bachelor of Arts. (See Architecture, Business, Journalism, Medicine, pp. 59, 60.)

#### COURSES IN THE GRADUATE FACULTIES AND PROFESSIONAL SCHOOLS OPEN TO BARNARD STUDENTS

##### Political Science, Philosophy, and Pure Science

Certain graduate courses in Columbia University under the Faculties of Political Science, Philosophy, and Pure Science which are listed in the Barnard

Announcement are open, with the consent of the department concerned and the Committee on Instruction, to specially qualified seniors and in some cases juniors. In these courses special arrangements are made for the supervision of the work of undergraduates. Since graduate work is on an entirely different basis of credit from undergraduate work, it is rarely possible for a student in Barnard College to take any graduate courses for which these special arrangements have not been made. Seniors of unusual ability may, however, be permitted in special cases to elect not more than two graduate courses not listed in the Barnard Announcement.

Graduate courses, when approved by the Committee on Instruction, may be counted by an undergraduate toward the Bachelor's degree. Or, in case the student has more points than the number required for that degree, they may, under certain circumstances, be credited toward the Master's degree. For full information concerning the content of the courses, students are referred to the appropriate University announcements mentioned at the end of the departmental statements given below.

### Architecture

Certain courses in the School of Architecture are open to regular students in Barnard College, and may be credited towards the Barnard degree. They are described below in the departmental statement on page 86.

After two years of collegiate work in Barnard, amounting to at least 60 points' credit (exclusive of physical education) and including elementary French, mathematics through solid geometry, plane trigonometry and advanced algebra and such other courses as may be recommended by the School of Architecture, a student may transfer without examination to the School of Architecture in Columbia University and become a candidate for the degree of Bachelor of Architecture. The course in the School of Architecture leading to this degree generally requires four years for its completion.

For full information, students are referred to the Announcement of the School of Architecture.

### Business

After two years of collegiate work in Barnard, amounting to at least 60 points' credit (exclusive of physical education), including two years of English, two years of French or German or Spanish, and at least one year of history, economics, commercial geography, and mathematics (except for the secretarial course), a student may transfer without examination to the School of Business in Columbia University and become a candidate for the degree of Bachelor of Science in Business. Those planning to take the secretarial course should take two years of composition and one of English literature, but need not take mathematics. The course in the School of Business leading to this degree generally requires for its completion two years in addition to the two years of collegiate work in Barnard College.

For full information students are referred to the Announcement of the School of Business.

### Journalism

After two years of collegiate work in Barnard, amounting to at least 60 points' credit (exclusive of physical education), including two years of English or classics, one year each in natural science, modern language in advance of the intermediate admission requirement, government or economics (both are advised), and general European or American history (both are advised), a student may transfer without examination (except in French and typewriting) to the School of Journalism of Columbia University and become a candidate for the degree of Bachelor of Literature. The course in the School of Journalism leading to this degree generally requires for its completion two years in addition to the two years of collegiate work in Barnard College.

For full information, students are referred to the Announcement of the School of Journalism.

### Medicine

After collegiate work of good grade at Barnard amounting to at least 72 points and including one year of physics, one year of inorganic chemistry based on college entrance chemistry, one-half year of qualitative analysis, one-half year of organic chemistry, one year of biology, two years of English, elementary and intermediate French or German, a student may be recommended by the Faculty of Barnard College for transfer without examination to the College of Physicians and Surgeons of Columbia University, to become a candidate for the degree of Doctor of Medicine. The course leading to this degree requires for its completion four years of study in the College of Physicians and Surgeons and a fifth year of service as hospital interne.

While the above courses represent the minimum requirements for admission, the authorities of the College of Physicians and Surgeons state that a collegiate course of four years leading to a Baccalaureate degree is considered the most desirable preparation. Owing to the necessity of limiting the number of students which can be accommodated, completion of the requirements for entrance does not guarantee admission. The entire pre-medical record of each student is carefully examined in order that those who are adjudged most capable of meeting the exacting demands of the course and the profession of medicine may be selected.

The Barnard College regulations in regard to the amount of work which may be carried make it impossible for a student to complete the above minimum of 72 points in two years without summer session courses. The Barnard College Faculty also requires that all except students of very unusual ability take three years of pre-medical work before being recommended for transfer to the College of Physicians and Surgeons.

For full information students are referred to the Announcement of the College of Physicians and Surgeons.

### Music

Courses in the history and theory of music and in composition, given at Columbia University, are open to regular students in Barnard College and may

be credited toward the Barnard degree. They are described below in the departmental statement on page 97.

For full information students are referred to the Announcement of the Department of Music.

Students wishing to combine collegiate work with vocal or instrumental training may, while pursuing courses at Barnard, enroll as regular students at the Institute of Musical Art, Claremont Avenue and 122d Street. They must obtain the consent of the Dean of Barnard College and of the Director of the Institute. Work at the Institute will not be counted toward the Barnard degree and must be paid for separately.

### Education

Certain courses in the history and theory of education given by Teachers College are open to regular students in Barnard College and may be credited toward the Barnard degree. They are described in the departmental statement on page 82 below.

While the courses in the School of Education are primarily intended for graduate students, those seniors who are specially qualified may, with the permission of the Dean of Barnard College and of the Director of the School of Education, elect these courses with a view of securing the Teachers College diploma at the same time that the Barnard degree is awarded or with the addition of a summer session or semester. Such students must satisfy the diploma requirements as stated in the Announcement of the School of Education. A Teachers College Diploma for the teaching of an academic subject in a secondary school may be obtained upon the completion of a program to include as a minimum Education A1, Education B, Education 281, Education 283 (or 284), a year's work in methods in an academic subject in which the student has completed a major in Barnard College, and a unit course (5 weeks) in the teaching of a second academic subject. Students who are planning to teach in New York State may so arrange this work as to qualify for the College Graduate Professional Provisional Certificate granted by the Regents of New York.

For full announcement of courses and diploma requirements students should consult the Announcement of the School of Education.

### Social Work

Exceptional advantages are available for students desiring to specialize in economics, sociology, and social economy, in preparation for social and philanthropic work. Besides the courses given at Barnard in economics and social science, certain graduate courses in this department of Columbia University are open, with the consent of the department and of the Committee on Instruction, to specially qualified seniors. Through an arrangement with the New York School of Social Work, certain courses in the latter institution may also be pursued, with the consent of the Department of Economics and of the Committee on Instruction, and the approval of the Director of the School, by specially qualified seniors, and counted toward the Barnard degree. The purpose

of this School is to fit men and women for social service in either professional or volunteer work. By taking some of this work in her senior year a Barnard student may anticipate part of the requirements for the diploma of the School of Social Work.

### ADVICE TO STUDENTS

The Dean is always glad to confer with students regarding any matters that may be of interest to them. To give the individual student opportunity to consult freely with instructors particularly along the lines of her major interests, Faculty Advisers are appointed or elected. They must be consulted by the student in regard to her program of studies and may also be consulted by her about other matters that are of interest to her, such as possibilities in various lines of work after graduation, etc. (Information as to opportunities in different occupations may also be obtained from the Secretary's office.)

Before submission to the Committee on Instruction for approval, every elective blank indicating a student's program of studies and all changes in that program, require the signature of the faculty adviser.

**Incoming Students.**—At the time of registration a new student confers with the Committee on Advice to New Students or with the Committee on Transfers regarding her program for the first year in college. After the close of the registration period, the Committee on Advice to New Students assigns each student to an instructor who will serve as her adviser for the current academic year.

In April of each year every student chooses an adviser to consult regarding the election of courses for the coming academic year under the following general regulations:

The adviser should be a regular instructor of the Barnard College staff, and not an instructor who comes to Barnard from other parts of the University, or who is a member of the Department of Physical Education. No instructor will be asked to advise more than twenty students.

If the student is a candidate for a certificate in science or mathematics, the adviser should be chosen from a science department or the Department of Mathematics.

If she desires it, a student may keep her freshman adviser from year to year throughout her college course. But in general, she is advised to select for her junior and senior years, an adviser in the department in which she means to elect her major. This is particularly important because certain departments have special requirements for major students, and because it is of advantage to a student, when applying for positions after graduation, to have come in more or less close contact with at least one instructor in the subject of her major interest. In cases where a student does not wish to choose either her freshman adviser or one in the department of her major subject, she may, upon submission to the Committee on Instruction of adequate reasons for her choice, choose an adviser in another department.

A Freshman should choose any instructor whose work she has taken in the freshman year, or her freshman adviser.

A **Sophomore** should choose an instructor whose work she has taken in freshman or sophomore year but preferably one in the department in which she means to elect her major subject, or her freshman adviser.

A **Junior** should choose an instructor from the department in which she has elected her major subject—preferably the same as the adviser chosen at the end of the sophomore year, or her freshman adviser.

A **Senior** who is planning to complete her work in summer session should also choose as her adviser an instructor who is familiar with her work and her ability.

## GENERAL REGULATIONS REGARDING EXAMINATIONS IN COURSE, CREDIT, AND ADVANCEMENT

**Stated Examinations.**—Two series of examinations are held every year, one in January and the other in May. These are the only stated examinations. In 1922, the mid-year examinations begin on Wednesday, January 25, the final examinations on Monday, May 22.

**Absences.**—All students are expected to attend regularly and promptly all the exercises in the courses for which they are registered. Any considerable amount of absence or tardiness will result in the lowering of a student's mark or the loss of one or more points of credit. At the end of each term each student may file in the Registrar's office, on blanks provided for that purpose, a list of her absences and tardinesses with the reasons therefor. After considering these excuses and the reports from the instructors, the Committee on Instruction will adjust marks and credits.

**Special Examinations.**—Special examinations are held as follows: in the week beginning on the second Monday of the spring session of each year, and within the two weeks preceding the opening of the College in the fall.

Such examinations are open, by permission of the Provost, on recommendation of the Committee on Instruction, to:

(a) Students who have received F (or D in excess of 6 points), provided that, in the opinion of the instructor and that of the Committee on Instruction, the term work has been good enough to make repetition in class or laboratory unnecessary. Ordinarily F (or D in excess of 6 points) in prescribed work involves repetition of the course.

(b) Students who have been absent, for imperative reasons, from the stated examination in any course provided their term work has been satisfactory.

(c) In rare instances, for reasons of weight, to other students.

In all cases application for permission to take a special examination must be made in writing.

For any such series of examinations, or any such single examination taken at any time other than the stated examination period immediately following the conclusion of the course or courses involved, a fee must be paid to the Bursar before the student is admitted to the examination (see p. 51).

**Grades and Credit.**—The student's performance in a course is rated according to the following grades: A, excellent; B, good; C, fair; D, poor; F, failure.

No student may count for promotion from any class to the next higher class

more than six (6) points of D work or may be credited with more than six (6) points of D work during her senior year. In case more than four years is required for her degree, not more than twenty-four (24) points of D work altogether may count for the degree. Of several courses in which a student is marked D she may choose the ones to be counted.

**Additional Credit for High Standing.**—At the end of the winter and of the spring session, when all the reports are filed in the Registrar's office, additional credit for high standing is given as follows:

The mark A in courses aggregating six points of work (no course to be counted twice) entitles the student to one point of extra credit, provided she has satisfactorily completed all the work of the session, and has not fallen below the mark B in any course.

**Classification of Students.**—Matriculated students whose record as to entrance conditions and the completion of prescribed courses is satisfactory to the Committee on Instruction, are classified as follows:

Freshmen, those who have completed less than 24 points of academic work.

Sophomores, those who have completed 24 points.

Juniors, those who have completed 54 points.

Seniors, those who have completed 86 points.

In all cases the requirements for promotion must be met in full before the beginning of the winter session.

A student who fails to meet the requirements for advancement from one class to another may, with the consent of the Provost, on the recommendation of the Committee on Instruction, remain in College and repeat the course or courses in which her deficiency exists, or, in the case of elective courses, other courses equivalent thereto in time. She may not, however, register as a special student.

Should a student fail of advancement in two successive years, she shall be permanently dismissed from the College, unless, for reasons of weight, the Provost, on the recommendation of the Committee on Instruction, shall otherwise determine.

## SCHOLARSHIPS

**Number and Value.**—There are, altogether, fifty-eight scholarships ranging in value from \$120 to \$600, forty-four small supplementary scholarships of \$50 each, and nine special funds for the benefit of students who need financial aid. Each scholarship consists of the income of a certain fund given to the College. The values stated in the list on pages 65-69 are approximate estimates of the income of these funds, which are applicable to the fees of the year. Under certain circumstances, holders of scholarships which do not cover the entire tuition fee may receive supplementary grants from the special funds.

**Classification.**—The scholarships are of two sorts, competitive and non-competitive. Some of the competitive scholarships are awarded to entering freshmen for excellence in entrance examinations. Others are awarded to students already in Barnard for excellence in their college work. The non-competitive scholarships are awarded to students needing financial aid, and, as a

rule (except in the case of the Pulitzer Supplementary Scholarships), only to those who have passed at least one year in college. They are held, unless otherwise stated, for one year only.

**Conditions.** — Two scholarships may not be held by the same person, unless one is a Supplementary Scholarship. Should two scholarships be assigned to the same student in one year, she must at once choose which she will retain. If a student fail to maintain a grade of at least C in all courses which she pursues, or if for any other reason she show herself an unsatisfactory candidate, she shall forfeit her scholarship and, in the case of non-competitive scholarships, shall be ineligible for re-election the following year. No student with entrance conditions unremoved, or with a grade below C in the year previous to that in which she is asking for help, shall be eligible for a scholarship. For competitive entrance scholarships a complete set of entrance examinations is required. These examinations should, as a rule, be taken in June, since the scholarships are generally awarded before the beginning of the winter session; they may be taken, if the candidate so desire, in two successive Junes. Scholarships vacant in February may, however, be awarded to candidates entering at that time on the January examinations.

**Application.**—Before the first of April of each year all applications for non-competitive scholarships, accompanied with full credentials, must be filed at the Dean's office upon special blanks to be obtained there. Candidates for the competitive scholarships to be awarded on the basis of the June examinations should, in their application to the Secretary of the College Entrance Examination Board (see p. 21), mention the Barnard scholarships for which they are competing. For the Carpentier Scholarships, the Pulitzer Scholarships, the Martha T. Fiske Scholarship, and the Jessie Kaufmann Scholarship, application must be made to the Secretary of Barnard College before the first of May. In order to qualify for the receipt of her stipend, the holder of a scholarship should report at the office of the Registrar not later than the first day of the academic year.

## COMPETITIVE SCHOLARSHIPS

These, subject to the foregoing general regulations for scholarships, are as follows:

Carpentier Residence Scholarships (for annual income, see below) . . .	8
Founded in 1919 with a bequest from the late Horace W. Carpentier.	
Eight Residence Scholarships, four of which carry an income of \$600 a year apiece and four an income of \$400, are open to women who are not residents of New York City or its vicinity. They are awarded on the merits of entrance examinations taken under the College Entrance Examination Board and on the candidates' general character and power of leadership. The examinations may be taken, if the candidates so desire, in two successive Junes. The scholarships may be held throughout the college course, provided the recipients continue to maintain a high rank in their college work. The holders are required to reside in Brooks Hall, or John Jay Hall, the Barnard halls of residence. One of each will be awarded each year.	
Lucille Pulitzer Scholarships (for annual income, see below) . . . . .	14
Founded by the late Joseph Pulitzer in memory of his daughter, Lucille Pulitzer.	
Eight Residence Scholarships, four of which carry an income of \$600 a year apiece and four an income of \$300, are open to women who are not residents of New York City or its vicinity. They are awarded on the same terms as the Carpentier Residence Scholarships listed above. One \$600 and one \$300 scholarship will be awarded each year.	
Three New York City Scholarships are awarded to students entering the College from the city of New York who are found to have passed excellent entrance examinations and to be worthy of financial aid. They may be held for the first three years of the college course only.	
The first (a), founded in 1899, carries an annual income of \$400 and will be awarded in 1921, 1924, and corresponding years.	
The second and third, given in 1903, carry annual incomes of \$325 each; (b) will be awarded in 1922 and 1925, (c) in 1923 and 1926, and corresponding years.	
One Competitive Freshman Scholarship (\$200) is awarded annually on the merits of the entrance examinations and on the candidate's general character. It may be held for one year only.	
Two Tuition Scholarships (\$200 each) may be awarded to students of any class who have shown exceptional scholarly ability and who are in need of assistance.	
Jessie Kaufmann Scholarship (\$170) . . . . .	1
Founded in 1902 by Mr. Julius Kaufmann in memory of his daughter, Jessie Kaufmann. Awarded on the merits of the entrance examinations to a student who, after careful investigation, is found to have no relative able to assist her financially. It may be held for the entire college course.	
Martha T. Fiske Scholarship (\$200) . . . . .	1
Founded in 1911 by Miss Anna E. Smith, in memory of her sister, Mrs. Martha T. Fiske-Collord. It is awarded, on the basis of scholarly ability and general character, to some deserving candidate not a resi-	

dent of New York City or its suburbs, and may be held throughout the college course, provided the recipient continues to maintain a satisfactory standing.

Eleonora Kinnicutt Scholarship (\$200) . . . . . 1

Founded in 1911 in memory of Mrs. Francis P. Kinnicutt, who was a Trustee of Barnard College. It is awarded at the end of the freshman year to a student of exceptionally high standing, and may be held for three years, provided the recipient continues to maintain a high rank. It will be awarded in 1921 and 1924.

Emma A. Tillotson Scholarship (\$200) . . . . . 1

Founded in 1910 by the late Mrs. Luther G. Tillotson. It is awarded at the end of the freshman year to a student of exceptionally high standing, and may be held for three years, provided the recipient continues to maintain a high rank. It will be awarded in 1922 and 1925.

William Moir Scholarships (\$200 each) . . . . . 2

Founded in 1912 by the late Mrs. William Moir, in memory of her husband.

The first (a) is awarded at the end of the freshman year to a student of exceptionally high standing who is in need of assistance, and may be held for three years, provided the recipient continues to maintain a high rank. It will be awarded in 1923 and 1926.

The second (b) may be awarded to a student of any class who has shown exceptional scholarly ability and who is in need of assistance.

#### NON-COMPETITIVE SCHOLARSHIPS

These, subject to the general regulations for scholarships, are as follows:

Ella Weed Scholarship (\$155) . . . . . 1

Founded in 1895 by the pupils of Miss Anne Brown's School in memory of Miss Ella Weed, who was chairman of the Academic Committee of the Board of Trustees of Barnard College during the first five years of its existence.

Veltin School Scholarship (\$150) . . . . . 1

Founded in 1905 by the alumnae of Mlle. Veltin's School.

Jennie B. Clarkson Scholarship (\$150) . . . . . 1

Founded in 1898 by the late Mrs. W. R. Clarkson.

Emily James Smith Scholarship (\$120) . . . . . 1

Founded in 1899 by Miss Emily H. Bourne in honor of Miss Smith, then Dean of Barnard College. It is awarded in conference with the founder.

Anna E. Barnard Scholarship (\$150) . . . . . 1

Founded in 1899 by Miss Emily H. Bourne in honor of Mrs. John G. Barnard. It is awarded in conference with the founder.

Brearley School Scholarship (\$120) . . . . . 1

Founded in 1899 by pupils and former pupils of the Brearley School.

Eliza Taylor Chisholm Memorial Scholarship (\$120) . . . . .	1
Founded in 1901 by the Alumnae Association of Miss Chisholm's School, which Association reserves the privilege of precedence for such candidates as it may recommend.	
Graham School Scholarship (\$120) . . . . .	1
Founded in 1907 by the Graham Alumnae Association.	
Mrs. Donald McLean Scholarship (\$150) . . . . .	1
Founded in 1906 by the New York Chapter of the Daughters of the American Revolution. It is awarded, in conference with a representative of the Chapter, to a deserving student who agrees to pursue the study of history (chiefly that of the United States) continuously throughout her college course.	
Emma Hertzog Scholarship (\$150) . . . . .	1
Founded in 1904 by gifts from residents of Yonkers, N. Y. It is awarded, in conference with the Faculty of the Yonkers High School, to a graduate of that school who is entering Barnard College.	
Mrs. Henry Clarke Coe Scholarship (\$160) . . . . .	1
Founded in 1910 by the National Society of New England Women, now the New York City Colony of the National Society. It is awarded, on the nomination of the chairman of the Scholarship Committee of the New York City Colony, to a student from New England or of New England parentage, and after the award is once made the Society requires from the beneficiary full obedience to discipline and the highest ideals of scholarship. This may be awarded to an entering freshman.	
Mary Barstow Pope Scholarship (\$210) . . . . .	1
Founded in 1913 in memory of Mary Barstow Pope, sometime teacher in Miss Chapin's School, by her friends, her fellow-teachers, and her pupils. It is open to any undergraduate of Barnard College for the whole or any part of her course, and is awarded on the nomination of a self-perpetuating committee representing the founders.	
Charles E. Bogert Memorial Scholarship (\$200), and	
Anna Shippen Young Bogert Memorial Scholarship (\$250) . . . . .	2
Founded in 1913 by the late Mrs. Annie P. Burgess. They are awarded to worthy and deserving students of good Christian character who are unable to pay their own expenses.	
Martha Ornstein Brenner Scholarship (\$180) . . . . .	1
Founded in 1915 by her friends in memory of Martha Ornstein Brenner, 1899.	
Barnard School Alumnae Scholarship (\$200) . . . . .	1
Founded in 1916 by the alumnae of the Barnard School for Girls. It may be awarded to a student in any class, preference being given to nominees of the school.	
Fanny I. Helmuth Scholarship (at least \$262) . . . . .	1
Established on a temporary basis by the Daughters of Holland Dames in honor of Fanny I. Helmuth. It is awarded in conference with a representative of the society to a student of Dutch descent who is in need of aid.	

## SPECIAL FUNDS FOR THE AID OF NEEDY AND DESERVING STUDENTS

### Arthur Brooks Fund.

A fund of \$5000, given in 1897 by Miss Olivia E. Phelps Stokes as a memorial to the Reverend Arthur Brooks, D.D., Rector of the Church of the Incarnation and Chairman of the Board of Trustees of Barnard College during the first six years of its existence.

### Fiske Scholarship Fund.

A fund of \$5000 given by the late Mrs. Martha T. Fiske-Collord, the income of which is placed at the disposal of the Dean of Barnard College.

### George W. Smith Scholarship Fund.

A fund of \$5000 given in 1906 by the late Mrs. Martha T. Fiske-Collord as a memorial to Mr. George W. Smith, who was a Trustee of Barnard College. The income of the fund is placed at the disposal of the Dean of the College.

### Charles Stewart Smith Scholarship Fund.

Established in 1911 in memory of the late Charles Stewart Smith, who was a Trustee of Barnard College. It provides an annual income of \$250, which is used to assist needy and deserving students.

#### Mary Gertrude Edson Aldrich Scholarship Fund.

A fund of \$1000 given by Mrs. James Herman Aldrich. The income is used to assist in her senior year a student who has shown in her college life the moral qualities which go to the making of fine womanhood.

### Scholarship Fund.

A fund of \$9680, established by general subscription through the Scholarship Committee of the Board of Trustees.

### Carpentier Scholarship Fund.

A fund of \$200,000, the bequest of the late Horace W. Carpentier. The income remaining after the payment of the Carpentier Residence Scholarships described on page 66 is placed at the disposal of the Dean for distribution in scholarships of varying amounts, according to the needs of deserving students.

**Caroline Church Murray Fund.**

A fund of \$5000 established in 1918 by George Welwood Murray in memory of Caroline Church Murray. The income is placed at the disposal of the Dean, to be used in aid of needy and deserving students.

**Irma Alexander Goldfrank Fund.**

A fund of \$2105 established in 1919 by the friends of the late Irma Alexander Goldfrank, 1909. The income is placed at the disposal of the Dean, to be used in aid of needy and deserving students.

**STUDENTS' AID FUND**

A Students' Aid Fund of \$7200 is maintained by the Associate Alumnae. From this fund loans are made at a low rate of interest to students in need of financial assistance, whether for college tuition and residence fees or for outside expenses. The loans and interest are to be repaid within five years after graduation. Under the rules of the Students' Aid Committee, no money may be granted to a freshman in the first winter or spring session; it may be granted in the second only in exceptional cases. The chairman of the Committee, to whom inquiries should be addressed, is Miss Mabel Parsons, Hotel San Remo, New York City.

The operation of this fund as a loan fund, as distinct from the special scholarship funds already mentioned, makes it possible to keep the capital in continuous use by successive generations of students. While the Committee does not deem it advisable to lend a very large amount to any one student, it has not found that loans of moderate size proved a burden on the borrowers. The Committee desires to make the fund as helpful as possible and wishes therefore to have students in need of assistance apply to it freely.

**CAROLINE DUROR MEMORIAL GRADUATE FELLOWSHIP**

Established by an anonymous donor in 1912. It is of an annual value of \$600. The holder is to pursue a year of graduate study at Columbia or any other university or college of approved standing. This Fellowship is awarded each year as an academic honor to that member of the graduating class of Barnard College, who, in the opinion of the Faculty, shows most promise of distinction in her chosen line of work. Should the recipient prove in no need of financial assistance, she may retain the title and honor but resign the income, which will then be used for other fellowships or scholarships. This Fellowship is not to be applied for, but is awarded each year as soon as possible after the mid-year examinations. Students who have graduated in February are eligible, as well as those who are to graduate in June.

**PRIZES**

The following prizes are awarded annually, on the recommendation of the appropriate departments of the Faculty of Barnard College, in accordance with the special conditions named below. No prize will be awarded to any

student who falls below grade C in any course during the year in which she is a competitor.

**Herrman Botanical Prize.**—A prize of \$50, founded by the late Mrs. Esther Herrman, is awarded annually to the most proficient undergraduate student in botany.

**Kohn Mathematical Prize.**—A prize of \$50, founded by Mrs. S. H. Kohn, is awarded annually to a senior for excellence in mathematics. Competitors for this prize must have pursued mathematics continuously during their college course.

**The Jenny A. Gerard Medal.**—The Jenny A. Gerard Gold Medal, given in 1908 by the Society of the Colonial Dames in America in memory of Mrs. James Gerard, late President of the Society, is awarded annually to the undergraduate student of American birth in Barnard College who is most proficient in American Colonial History.

**Speranza Prize in Italian.**—A prize of \$50, founded by a former student in memory of the late Carlo Leonardo Speranza, Instructor and Professor of Italian at Barnard from 1890 until 1911, is awarded annually to a student in Barnard College for excellence in Italian.

**von Wahl Prize.**—A prize consisting of the income of a fund of \$1300, founded in 1915 in memory of Constance von Wahl, 1912, President of the Undergraduate Association, is awarded annually to a student for excellence in zoölogy, on the understanding that it is to be used to advance her knowledge in that field. If in any year no student stands out as eminently deserving of the prize, it is not awarded.

**Caroline Gallup Reed Prize.**—A prize consisting of the income of a fund of \$1000, founded in 1916 by Mrs. William Barclay Parsons in memory of her mother, Mrs. Sylvanus Reed, for the recognition of special study in the subject of the origin of Christianity and early Church history, is awarded annually to the student who shows the highest excellence in this field of work. The award is made partly on the basis of an examination and partly on the basis of an essay to be handed in by May 1. A syllabus of the period to be covered may be obtained from the Chaplain of the University.

**Jean Willard Tatlock Memorial Prize.**—A prize consisting of the income of a fund of \$1250 founded in 1917 by her friends in memory of Jean Willard Tatlock, 1895, is awarded annually to the undergraduate student most proficient in Latin.

The following prizes of Columbia University are by their terms open to students of Barnard College.

**Bennett Prize.**—A prize established through a gift of \$1000 from James Gordon Bennett may be awarded by the Faculty of Political Science for the best essay upon some subject of contemporary interest in the domestic or foreign policy of the United States. The competition is open to students not holding a baccalaureate degree who pursue courses amounting to six hours a week in the School of Political Science. The subject for the essay to be handed in May 1, 1922, is 'Developments in the Colonial Policy of the United States since 1916.'

**The Bunner Medal.**—The H. C. Bunner Gold Medal, established by the friends of the late Henry Cuyler Bunner, is awarded annually at Commencement to the candidate for a Columbia degree who shall present the best essay on an assigned subject in American literature. The award will be made by a committee to be appointed by the President. The subject for the essay to be handed in May 1, 1922, is 'American Humorous Verse in the Nineteenth Century.'

**Earle Prize in Classics.**—A prize of \$50, established in memory of Mortimer Lamson Earle, Instructor in Greek in Barnard College from 1889 to 1895 and from 1898 to 1900, and Professor of Classical Philology from 1900 to 1905, is open for annual competition to all candidates for the degree of Bachelor of Arts. It is awarded partly on the basis of the regular work of the year in Greek and in Latin, partly on the basis of a special examination. The special examination covers specified portions of Greek and Latin literature, sight reading in Greek and in Latin, and prose composition in Greek and in Latin. The special subjects for 1922 are Euripides, Hippolytus, and Tacitus, Dialogues.

For the award in 1922, the examination will be held in January. Students are urged to do much of their work for the examination during the preceding summer vacation.

**The Caroline Phelps Stokes Prize.**—The Caroline Phelps Stokes Prize of \$40 is awarded annually at Commencement to that student who, having been regularly enrolled in Columbia College or Barnard College or Teachers College as a candidate for an academic degree, for not less than two sessions, winter or spring, shall be deemed to have written the best essay upon an assigned topic bearing upon the rights of man. The subject for the essay to be handed in May 1, 1922, is 'Freedom of Speech under the First Amendment to the Constitution of the United States.'

**Prize of the United Daughters of the Confederacy.**—A prize of \$100 is awarded annually by the United Daughters of the Confederacy to that student of Barnard College or of Teachers College who presents the best essay on a topic connected with the activity of the South before or during the war between the States. Papers must be presented to the Head of the Department of History on or before April 20. The topics are announced several months in advance.

## HONORS

**Departmental Honors.**—For the purpose of encouraging scholarly effort, distinctions are conferred by the Faculty of Barnard College on the recommendation of the Committee on Honors as follows:

At the end of their sophomore year, students who have shown unusual proficiency in the first two years receive honorable mention.

Juniors may be granted the privilege of working for honors in any one department, and

Seniors may be granted the privilege of working for honors in any one department in which they have not previously taken honors, or for high honors in any department in which they have previously taken honors.

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In 1921-22 honors will be awarded to seniors only. For other classes see page 57.

**Regulations.**—With the mid-term reports in November, the various departments submit the names of all juniors and seniors who have shown unusual ability in the work of any course in connection with which honors work may be taken. The Committee on Honors, after investigating the general records of such students, decides which of those named by the departments may be permitted to do honors work.

Each student so selected receives from the Registrar a letter of notification with an enclosed enrollment card. If she wishes to make use of the opportunity offered, she must file this card with the Registrar of Barnard College not later than December 3.

Honors of either grade are awarded on the basis of supplementary work done in connection with regular college courses of two or more points a session as provided for by the departments concerned.

In addition, students working for honors have the privilege of attending lectures in courses in Barnard College for which they are not registered, provided they have a written recommendation from the instructor in charge of their honors work and the permission of the instructor giving the lectures.

All supplementary work for honors must be completed before the end of the first week in May. In the case of candidates for high honors, the regular final examination in the honors course is replaced by a general comprehensive examination in the honors subject. These examinations are held in the first week in May. Special arrangements are made for students who have entered college in February, or who expect to be graduated in February.

Public announcement is made of all awards.

**Degrees with Honors.**—The degree **Magna Cum Laude** may be awarded to

- (a) Students who have attained grade A in at least 102 points of work of the college course and have not fallen below grade B in any course during the junior and senior years, or
- (b) Students who have taken high honors.

The degree **Cum Laude** may be awarded to

- (a) Students who have attained grade A in at least 74 points of work and who have received no grade below C and who have not received more than 12 points of work of grade C, or
- (b) Students who have taken honors twice.

Points of extra credit gained by high standing are not to be counted in the totals for a degree with honors.

## RESIDENCE HALLS

Brooks Hall and John Jay Hall (see p. 15), the residence halls for Barnard College students, will open on Monday, September 26, 1921, and will close on Saturday, June 10, 1922. Candidates for admission or students who wish to secure accommodations in the halls during the week of the June entrance examinations or the September entrance or deficiency examinations should make arrangements directly with the Secretary of Residence Halls, not later than June 1 or September 1, respectively.

Full information in regard to the situation and cost of rooms, the advance deposit, and the charge for electric light is published in a separate pamphlet, to be had on application to the Secretary of Residence Halls. All correspondence regarding accommodations in the Halls should be addressed to the Secretary of Residence Halls, 607 West 116th Street, New York, N. Y. For the dormitory fees see page 52.

The post-office address for residents is Brooks Hall, 607 West 116th Street, or John Jay Hall, 39 Claremont Avenue, New York, N. Y.

For the present, the coöperative system of residence formerly used in the Alumnae Coöperative Dormitory, has had to be partially discontinued. Some floors in John Jay Hall will, however, be so managed that students may obtain residence at a slightly reduced cost.

Students who live in John Jay Hall will take their meals in Students Hall, directly opposite.

For regulations in regard to the residence of students who do not live in Brooks Hall or John Jay Hall, see page 16.

## HEALTH AND PHYSICAL TRAINING

The University Medical Officer, Dr. William H. McCastline, and the College Physician, Dr. Gulielma F. Alsop, supervise the sanitation of the College and give personal advice to the students concerning their health. Two trained nurses, who live in Brooks Hall and John Jay Hall, work under their direction in promoting the health of both resident and non-resident students.

The Students Hall contains a gymnasium, swimming-pool, and exercise rooms. The students have also, on Milbank Quadrangle, a practice field for basketball and tennis courts. A physical examination is required of each student upon entrance. On the basis of this examination advice is given as to the kind and amount of exercise best adapted to her needs, and in many cases recommendations are made to the Committee on Instruction regarding the amount and arrangement of her program of studies. Each student must also consult with the department at least once a month during her college course. As far as possible the work in physical education is conducted in the open air.

## THE UNIVERSITY LIBRARY

The General Library of the University contains about 761,000 volumes, exclusive of unbound pamphlets and doctoral dissertations. The various departments of instruction have also special libraries in connection with their lecture-rooms and laboratories. The Avery Architectural Library, the Law Library, the Ella Weed Library of Barnard College, the Bryson Library of Teachers College, and the libraries of the College of Physicians and Surgeons and the College of Pharmacy, are all available to students of the University.

For the convenience of the undergraduates of Barnard College there is maintained in the Ella Weed library in Students Hall a carefully selected collection of reference books of about 14,900 volumes.

### UNIVERSITY PRESS BOOKSTORE

A University bookstore is maintained in the building of the School of Journalism under the auspices of the Columbia University Press, where officers and students may purchase books and stationery at stated discounts from list prices.

### ASSEMBLY AND CHAPEL

University or College assembly is held every Tuesday at one o'clock. All students are expected to attend.

In St. Paul's Chapel, the chapel of Columbia University, service is held every week-day except Saturday at 12 o'clock and on Sunday afternoon at 4 o'clock. The Thursday services are especially for Barnard students. At these services attendance is voluntary.

A special University service is held in St. Paul's Chapel on the Wednesday preceding the Thanksgiving recess.

### EMPLOYMENT AND VOCATIONAL INFORMATION

The Employment Bureau for alumnae and students in search of employment or professional advancement is conducted through the Secretary's office. Candidates are recommended to employers who apply to the college. Both students and graduates are given as much information as possible about opportunities in different lines of work and the requirements therefor. The Committee on Employment of the Associate Alumnae coöperates with the Secretary; and the Faculty advisers also assist students with information in regard to particular vocations.

Each year one or two conferences are arranged at which the students may hear speakers from the Bureau of Vocational Information and other alumnae in different occupations. In general, the college keeps in touch with the Bureau of Vocational Information of New York City, of which it is a contributing member.

### STUDENT ORGANIZATIONS

Under the system of self-government in use in the College, the various student organizations are supervised by the Student Council, subject to the general approval of the Faculty. The Council controls the schedules of meetings and entertainments and administers rules of eligibility for office-holding and participation in college plays. It also administers the Honor System.

Every regular student is a member of the Undergraduate Association and as such is at liberty, on payment of the student fee, to take part in all general undergraduate and class functions, to make use of all privileges of the Athletic Association, and to receive the college weekly paper. Special students may become special and associate members of the association if they so desire.

## STATISTICS

	1889 to 1890	1894 to 1900	1899 to 1905	1904 to 1910	1909 to 1911	1910 to 1912	1911 to 1913	1912 to 1914	1913 to 1915	1914 to 1916	1915 to 1917	1916 to 1918	1917 to 1919	1918 to 1920
<b>UNDERGRADUATES, REGULAR:</b>														
Seniors	9	40	83	62	53	72	86	*97	*123	93	144	131	102	87
Juniors	18	40	71	122	144	144	147	110	160	143	150	167	155	103
Sophomores	18	37	75	109	115	132	155	132	191	169	177	155	161	187
Freshmen (regular)	4	26	54	110	188	226	184	252	240	211	194	211	234	174
Freshmen (partly regular)	10	..	..	..	..	..	..	..	..	..	..	..	..	222
<b>SPECIAL STUDENTS:</b>														..
Matriculated	14	71	171	339	481	497	584	569	628	664	633	658	647	694
Non-matriculated	..	..	21	27	24	26	20	16	22	32	28	35	27	39
Departmental (1889-1896)	..	..	..	..	30	24	36	33	34	32	33	41	23	22
Music students (1896-1904, 1914-1915)	..	22	29	41	..	..	..	..	..	..	..	..	..	..
<b>GRADUATE STUDENTS (1890-1900)</b>	22	29	62	27	54	50	56	49	56	69	61	76	50	51
<b>TOTAL STUDENTS PRIMARY REGISTERED AT BARNARD</b>	..	19	82	..	..	..	..	..	..	..	..	..	..	..
Students from COLUMBIA UNIVERSITY	36	119	315	366	535	547	640	618	684	733	694	734	697	715
Students from TEACHERS COLLEGE	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Students from SCHOOL OF PHILANTHROPY	..	..	..	..	..	..	..	..	..	..	..	..	..	..
<b>TOTAL STUDENTS FROM OTHER PARTS OF THE UNIVERSITY</b>	..	..	..	..	..	..	..	..	..	..	..	..	..	..
<b>TOTAL REGISTRATION</b>	..	..	18	139	259	263	205	183	167	136	64	68	93	51
<b>Degrees Conferred:</b>	36	119	333	505	794	810	845	801	851	869	758	802	790	766
A.B.	..	..	..	..	..	..	..	..	..	..	..	..	..	..
B.S.	..	..	..	..	..	..	..	..	..	..	..	..	..	..
A.M. (1894-1900)	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Ph.D. (1895-1900)	..	..	..	..	..	..	..	..	..	..	..	..	..	..

**TOTAL BACHELORS' DEGREES CONFERRED 1893-1920** A.B., 2261; B.S., 74.

\* In 1913-1914, 18 and in 1914-15, 3 Barnard seniors registered at Teachers College for the professional diploma are included in the senior figures and not among the Teachers College students.

† In 1916-17, 1 Barnard senior, registered in the 3d year of the Journalism course, is included.

## DEPARTMENTAL STATEMENTS

*The following general regulations apply to all courses. The paragraphs on "The Program of Studies," pp. 53-58, should be carefully read.*

When an announced course has not been applied for by at least three candidates for a degree, the instructor may withdraw it.

Where the hours for laboratory work are not given either in the departmental statement or in the scheme of attendance, they must be arranged after consultation with the officer in charge of the course.

Courses designated by capital letters are prescribed. Elective courses are designated by numbers, odd numbers indicating the winter session and even numbers, the spring session. A compound course is therefore designated by an odd number and the succeeding even number. The numbers from 1 to 99 inclusive are given to courses open only to undergraduates; the numbers from 101 to 199 inclusive are given to courses open to both undergraduates and graduates; the lower numbers in each case being used for the introductory courses.

A Roman numeral in parentheses after the hour, indicates the section number (*e. g.*, M., W., and F. at 9 (I), at 10 (II) etc.)

In the statement of each course the prerequisites are indicated. When no department is named it is to be assumed that the reference is to a numbered course in the same department. *No credit in points will be given for a course which is taken subsequent to the course or courses for which it is in any way a prerequisite, though not formally so announced. Courses must be taken for the credit value announced — for no more or no less.*

A hyphenated course (*e. g.*, History A1-A2) is regarded as a full-year course of which the first half is always assumed to be a prerequisite for admission to the second half, and, except for reasons of weight, and with the written consent of the instructor, no credit will be given for work dropped at the mid-years or before the completion of the course. A course of which the index signs are separated by a comma (*e. g.*, English 1, 2) is regarded as a divisible course of which the first half may be taken separately. *Admission to the second half of a divisible course is granted only when all prerequisites have been met and the written consent of the instructor obtained.*

Courses marked with an asterisk (\*) are given at Columbia University (Cf. p. 58).

Courses marked with a dagger (†) are given at Teachers College. *Work at Teachers College mentioned herein may be pursued only by regularly enrolled students of Barnard College and only when counting for a Barnard College degree. Certain courses not here specified as being open at Teachers College may, through the courtesy of Teachers College and with the consent of the Committee on Instruction, be taken by such students. All special students of whatever class should enroll at Teachers College for Teachers College courses.*

For further detailed information in regard to topics, text-books, or methods in any particular course, students are referred to the instructors.

## INTRODUCTORY COURSES

**1, 2—Introduction to the Study of the Science of Language.** Professors GERIG, REMY and BOAS. 4 points.

Tu. and Th. at 2.

Open to all excepting freshmen. Either half of this course may be taken separately.

In this course the principles of the historical development of languages, and the psychological processes that are manifested in the structure of language will be discussed. The courses aim to meet the needs of students of English, Romance, German, and classical languages, and of others who are interested in studying the formation and development of human speech.

## ANTHROPOLOGY

**1, 2—Introduction to Historical Anthropology.** Professor BOAS. 8 points.

M., W., and F. at 1, and weekly visits to the American Museum of Natural History at hours to be arranged.

Open to all excepting freshmen. Either half of this course may be taken separately.

**The Early History of Mankind.** — In this course will be discussed the antiquity of man; the races of men; the distribution of languages; the independent development in the New World and the Old; characterization of the tribes of Africa, Australia, Polynesia, Asia, prehistoric Europe and America.

**[3, 4—Introduction to Comparative Anthropology.** Professor BOAS. 8 points.

Open to all excepting freshmen. Either half of this course may be taken separately.

Winter session: The relation between race and mental faculties; the characteristics of languages; cultural types and areas; historical influences determining cultural development; the evolution of civilization; the historical development of industries, forms of art, society and religion.

Spring session: The application of anthropological data to modern social problems; the development of reason; the emotional attitudes determining behavior; the influences of patterns determining lines of thought and action the individual and society.

*Not given in 1921-22.]*

More advanced courses given at Columbia University are described in the Announcement of the Division of Philosophy, Psychology and Anthropology.

ARCHITECTURE. See *Fine Arts*

## ASTRONOMY

**1—General Astronomy, Introductory Course.** Professor JACOBY. Lectures, 2 points, with third hour, 3 points.

Tu. at 2 and Th. at 1 and a third hour to be arranged in the evening, at the Wilde Observatory.

**2—General Astronomy.** Identical in content and credit with Course 1. Professor JACOBY.

Tu. at 2 and Th. at 1 and a third hour to be arranged in the evening, at the Wilde Observatory.

Other courses given at Columbia University are described in the Announcement of the Division of Mathematical and Physical Science.

## BOTANY

**51-52—Principles of the Morphology and Physiology of Plants.** Pro-

fessor RICHARDS, Mrs. COUTANT, Miss BENHAM, and Miss GAISER. 2 lectures, 4 hours of laboratory work. Demonstrations to accompany lectures. 8 points.

Lectures, M. and F. at 10. Demonstrations and conferences, W. at 10. Laboratory work, Tu. and Th., 9-12, Tu., 2-4 and Th., 1-4. A special laboratory section will be arranged for students who have passed the entrance examination in botany and wish to obtain full credit for the course.

**53-54—Comparative Morphology and Development of Plants, Study of Types.** Professor HAZEN. 2 lectures, 4 or 6 hours of laboratory work. 8 or 10 points.

Tu. and Th. at 9.

Prerequisite, Course 51-52. Course 53-54 is not open to freshmen.

**55-56—Structure and Relationship of Flowering Plants.** Professor HAZEN. 1 hour lecture or conference, 4 or 6 hours of laboratory work. 6 or 8 points.

Th. at 3.

Prerequisite, Course 51-52, or Entrance Botany. Open to students on consultation with the instructor.

**151-152—Bacteria and Ferment Fungi.** Professor RICHARDS, Mrs. COUTANT and Miss GAISER. 2 lectures, 6 hours of laboratory work. 10 points.

Tu. and Th. at 4. Laboratory work, M., W. and F., 1-5.

Prerequisite, two years' work in botany and some knowledge of chemistry. Exception may be made for seniors or students intending to enter medical school. Open to students only after consultation with the instructor. Students wishing to elect work in bacteriology in other departments of the University must consult the instructor in Course 151-152.

**153—Physiological Anatomy of Vascular Plants.** Professor HAZEN. 2 lectures, 6 hours of laboratory work. 5 points.

Tu. and Th. at 11. Laboratory work, M. and Th., 1-5, Tu., 2-5, W., 9-12 in so far as possible.

Prerequisite, Course 53-54, or 55-56 except for juniors and seniors on consultation with the instructor.

**154—Physiology of Plants from Standpoint of Nutrition.** Professor RICHARDS and Mrs. RICHARDS. 2 lectures, a minimum of 6 hours of laboratory work. 5 points.

Tu. and Th. at 11. Laboratory work same as for Course 153.

Prerequisite, Course 153 and some knowledge of chemistry. Open to students only after consultation with the instructor.

Courses 154 and 156 are ordinarily given in alternate spring sessions.

**[156—Physiology of Plants from Standpoint of Growth.]** Professor RICHARDS and Mrs. RICHARDS. 2 lectures, a minimum of 6 hours of laboratory work. 5 points.

Prerequisite, Course 153 and some knowledge of chemistry. Open to students only after consultation with the instructor.

*Not given in 1921-22.]*

**[157—Embryology and Laboratory Methods.]** Practice in methods of technique, with the study of the embryology of one or more types. Professor HAZEN. 8 hours of laboratory work with occasional lectures and outside reading. 4 points.

Prerequisite, except for seniors, Course 153. Open to students only after consultation with the instructor.

*Not given in 1921-22.]*

**158—Structure and Development of Algae.** Advanced course. Professor HAZEN. 1 lecture, 6 or 8 hours of laboratory work. 4 or 5 points. Hours to be arranged.

Prerequisite, Courses 51-52 and 53-54.

**159—Structure and Development of Fungi.** Advanced Course. Professor RICHARDS. 1 lecture, 6 or 8 hours of laboratory work. 4 or 5 points. Hours to be arranged.

Prerequisite, Courses 51-52 and 53-54.

**[161, 162—Advanced Physiology and Morphology.]** Professors RICHARDS and HAZEN, and Mrs. RICHARDS.

Work will be arranged to suit the needs of the students, and credit will be given according to the amount accomplished.

Open to students only after consultation with the instructor. With the permission of the instructor this course may be taken in successive years.

*Not given in 1921-22.]*

## CHEMISTRY

**5-6—General Inorganic Chemistry.** Professors REIMER and KELLER, Dr. RICE, Dr. WARE, Miss SMITH, and Miss CLARK. 3 lectures, 2½ hours of laboratory work. 8 points. Students intending to enter a medical school should take this course with 5 hours of laboratory work, half of which must be on M., 10 points.

Tu. and Th. at 10 and a third hour Sat. at 10 or F. at 1. Laboratory work, Tu., W. or Th., 2-4.30. In order to obtain full credit for the course students who have passed the entrance examination in chemistry must take the special laboratory section on M., 2-4.30.

**63, 64—Qualitative and Quantitative Analysis.** Professor KELLER and Dr. WARE. 3 lectures, 6 hours of laboratory work. 12 points.

M., W. and F. at 10. Laboratory work, Tu., 2-5, and Th., 1-4; M. and W., 1-4.

Laboratory deposit, \$20.00.

Prerequisite, Course 5-6.

**65, 66—Quantitative Analysis, Advanced Course.** Professor KELLER and Dr. WARE. 1 lecture, 6 hours of laboratory work. 8 points.

Tu. at 11. Laboratory work, Tu., 2-5, and Th., 1-4.

Laboratory deposit, \$25.00.

Prerequisite, Course 63, 64.

This course will be given for a class of five or more.

**41-42—Organic Chemistry.** Professor REIMER and Dr. RICE. 3 lectures, a minimum of 6 hours of laboratory work. 12 points.

M., W. and F. at 9. Laboratory work, M. and W., 1-4, Tu., 2-5, and Th., 1-4.

Laboratory deposit, \$25.00.

Prerequisite, Courses 5-6 and, except for reasons of weight, 63, 64.

**42a—Elementary Organic Chemistry.** Short course, intended primarily

for pre-medical students. Dr. RICE. 3 lectures, a minimum of 6 hours of laboratory work. 6 points.

M., W. and F. at 9. Laboratory work, Tu., 2-5 and Th., 1-5.

Laboratory deposit, \$15.00.

**105-106—Inorganic and Physical Chemistry, Advanced Course.**

Professor KELLER. 3 lectures, a minimum of 6 hours of laboratory work. 12 points.

M., W. and F. at 1. Laboratory work, Tu. and Th., 9-12.

Laboratory deposit, \$30.00.

Prerequisite, Courses 5-6, 63, 64, 41-42, and Physics 11-12.

**[145-146—Organic Chemistry, Advanced Course.]** Professor REIMER. 3 lectures, a minimum of 6 hours of laboratory work. 12 points.

Laboratory deposit, \$30.00.

Prerequisite, Courses 5-6, 63, 64, 41-42.

*Not given in 1921-22.]*

**Journal Club.** 1 hour. The instructors and the advanced students meet for reports and discussion on recent scientific papers.

### ECONOMICS AND SOCIOLOGY<sup>1</sup>

**A1-A2 (A4-A5)—Outlines of Economics.** Professors OGBURN and COMSTOCK, Mrs. BAKER and Miss ELIOT. 6 points.

Students may tentatively select one of the following sections, but the Department reserves the right to make any changes necessary.

**A1-A2,** M., W. and F. at 9 (I), at 10 (II and III), at 11 (IV), Tu., Th. and S. at 9 (V), at 10 (VI).

Prescribed for juniors unless taken in sophomore year.

**A4,** the equivalent of **A1**, is offered in the spring session beginning in February; and **A5**, the equivalent of **A2**, is offered in the winter session.

**A4-A5,** M., W. and F. at 1.

A general introductory study of modern economic organization, designed to meet the needs of those who take only one year's work in Economics, and to serve as the foundation of more specialized work for those who wish to pursue further study in this field.

**1, 2—Introduction to Sociology.** Professor OGBURN. 6 points.

M., W. and F. at 11.

Open to juniors and seniors.

Introduction to sociological principles and a social philosophy, and a study of the technique for analyzing social problems. The distribution of income; poverty, crime, disease; the social effects of modern industry; relations of capital and labor; schemes of industrial democracy; social insurance; the family; the position of women; population; international relations; social programs; present trend of social and industrial evolution.

**[11-12—The Economic and Social Position of Women.]** Professor HUTCHINSON. 6 points.

Prerequisite, Course **A1-A2**.

*Not given in 1921-22.]*

**13-14—Economic Factors in the Development of Modern Society.** Professor Comstock. 6 points,

M., W. and F. at 10.

<sup>1</sup> In the reckoning of points for major subjects, Economics and Sociology may be counted as one subject. Courses in Anthropology may also be counted toward major credit in this department.

Prerequisite, Course A<sub>1</sub>-A<sub>2</sub>.

A study of the capitalistic system including the factory system, the rôle of money and credit, the relation of economic interests to political and social life, the economic theories of Adam, Smith, Ricardo, Marx, Marshall.

## \*101-102—Public Finance. Professor SELIGMAN. 6 points.

M. and W. at 1, and a third hour to be arranged.

Open to specially qualified seniors.

General introduction and history of public finance; different kinds of public revenues, including public domain and public property, public works, and industrial undertakings, fees, and special assessments; general theories and principles of taxation, incidence of taxation, and newer social theories of taxation; application of general principles to consideration of actual systems; practical American problems of federal, state, and local taxation; classes of public expenditure and fiscal principles which govern them. Public debt, methods of borrowing, redemption; fiscal organization of state; budget, national, state, and local.

## \*105—Labor Problems. Professor SEAGER. 3 points.

Tu. and Th. at 11, and a third hour to be arranged.

Open to seniors and specially qualified juniors.

Rise of factory system; labor legislation; growth of trade unions, and changes in law in respect to them; policies of trade unions, strikes, lockouts, arbitration and conciliation; proposed solutions of labor problems; future of labor in the United States.

## \*106—Corporation and Trust Problems. Professor Seager. 3 points.

Tu. and Th. at 11, and a third hour to be arranged.

Open to seniors and specially qualified juniors.

Growth of corporations; classification of combinations; organization of trusts; typical examples, the anti-trust acts, dissolution suits and their results, the combination movement abroad; conclusions as to American policy.

## 111—Public Health. Professor CHADDOCK. 2 points.

Tu. and Th. at 10.

Prerequisite, Course A<sub>1</sub>-A<sub>2</sub>.

The public health movement and its economic and social significance; child welfare; the health of school children; the protection of the industrial life of the workers in industry; education in health; the administration of health-promoting activities; and the protection of the standard of living.

## 112—Social Statistics. Professor CHADDOCK. 2 points.

Tu. and Th. at 10.

Prerequisite, Course A<sub>1</sub>-A<sub>2</sub>.

The measurement of social phenomena; sources of information, methods of summarizing, wages, prices, and budget expenditures.

The following courses in the School of Business are open to specially qualified juniors and seniors and may count towards a major in Economics and Sociology: Business 7-8—Business Organization and Administration; Business 51—Principles of Money and Banking.

Other courses offered at Columbia University and open under certain conditions to specially qualified juniors and seniors upon consent of the Department of Economics and Sociology at Barnard are Economics 113—History of Socialism, Economics 114—Marx and Post-Marxian Socialism, Economics 107—Fiscal and Industrial History of the United States, Economics 108—Railroad Problems, Sociology 151—Social Organization and Progress, Sociology 152—Social Organization and Progress in America, Sociology 153-154—The Psychological Factor in Modern Social Problems, Statistics 109-110—Principles and Methods of Statistics, Social Legislation 111—Community Organization and Welfare and Social Legislation 112—Humane Legislation; Labor Legislation and Social Insurance.

## EDUCATION

Course A<sub>1</sub> is prerequisite to all other courses in Education. Course B should be taken before or parallel with, all more advanced courses.

Specially qualified seniors who have obtained the permission of the Dean of Barnard College to take courses in Education counting towards the Teachers College Diploma should arrange to pursue if possible during the senior year Courses 281, and 283 or 284, a course in the methods of teaching their major subject and a unit course in the methods of teaching a second academic subject. For requirements for the Teachers College Diploma, see p 61.

**†A1—Educational Psychology.** Professor RUGER or WHITLEY. 3 points. Winter session only: M., W. and F. at 9.

Prerequisite, **Psychology A.**

**†B—History and Principles of Education.** Professor GOODSELL. 6 points. M., W. and F. at 3.

Prerequisite, **Course A1.**

**†281—General Method for Secondary Schools.** Professor Stevens.

2 points.

M. and W. at 2.

Prerequisite or parallel, **Course B.**

**†283 (or †284)—Supervised Observation and Teaching.** Professor STEVENS and assistants. 2 points, either course.

Either Course 283 or Course 284 may be taken, 283 in the winter or 284 in the spring session.

Conference hour, F. at 4.

Prerequisite or parallel, **Course 281.**

Specially qualified seniors who desire to be candidates for a Teachers College Diploma may with the permission of the Dean and the Committee on Instruction of Barnard College, and the appropriate instructor in Teachers College, elect courses in the methods of teaching biological and physical sciences, English, foreign languages, geography, history, and mathematics. In all cases students who wish to take a methods course must arrange for the practical work with the instructor before registration in that course.

For a list of the methods courses and the diplomas of Teachers College, students are referred to the Announcement of the School of Education of Teachers College.

## ENGLISH

**A1, A2 (A4)—Composition.** Oral and written exposition and argument; description and narrative. Professors BALDWIN, HALLER, and HOWARD, Miss WEEKS, Miss STURTEVANT, and Miss LATHAM. 6 points.

Students may tentatively select one of the following sections, but the Department reserves the right to make any changes necessary.

**A1, A2,** Tu., Th. and S. at 9 (I), at 10 (II), at 11 (III); M., W. and F. at 9 (IV and V), at 10 (VI), at 11 (VII), and M., W. and F. at 3 (VIII, **A1** only; open only, except by special permission, to students who entered college in February 1921).

Prescribed for freshmen and prerequisite for any other course except **X1** or **X2.**

**A1 (VIII)** is prescribed for students who entered college in February 1921; **A4**, the equivalent of **A1**, is prescribed for students entering college in February 1922.

**A4,** Tu., Th. and S. at 11.

### Composition

Only one composition course may be taken at a time. Each course is limited to twenty-five students and requires the written approval of the Department.

**1, 2—Story-writing.** Miss STURTEVANT. 6 points.

Tu., 4.10-5.50, and a third hour to be arranged.

Intended primarily for students who wish to study and practise the short story, this course considers other forms of magazine writing incidentally.

**3, 4—Writing on Current Interests.** Professor HOWARD. 6 points.

**Tu., Th. and S. at 11.**

Special articles on subjects growing out of current events; research articles, short biographies of contemporaries; analysis of contemporary periodicals; general training in composition.

**5, 6—Daily Themes and Essays.** Professor BREWSTER. 6 points.

Tu. and Th. at 10, and a third hour to be arranged.

**7, 8—Play-writing,** story-writing, and verse-writing, with stage trial, critical review of contemporary productions and publications, and editorial criticism of manuscripts. Application should be made two weeks before the date for handing in elections. The course is limited generally to seniors. Professor BALDWIN. 6 points.

Tu., 4.10-5.50, and a third hour to be arranged.

**Literature**

The following courses are in distinct periods, movements, or forms.

**Students making English their major subject** will include work enough in the earlier periods to insure a grasp of English language and literature as an historical development. In particular they will include linguistic study for at least one session. This latter requirement may be satisfied by any one of the following courses: **English 14, 15, 16, 19, Introduction to the Study of the Science of Language** (page 78), and certain other language courses approved in special cases; or, on evidence of sufficient outside study, by examination. Major students may also, with the written approval of the Department in advance, take certain 3-point courses for 4-points (or 6-point courses for 8 points) through special study and additional assignments and conferences.

Courses marked § are not open to sophomores except by special permission. Every election must have the written approval of the Department.

A program of each course, with its reading list and a statement of its scope and method, is on file in the Department offices for the use of students and advisers.

**13—Epic.** Miss STURTEVANT. 3 points.

M., W. and F. at 1.

A comparative survey of the earliest European literatures in translation; Beowulf, Old Irish, Roland, the Icelandic sagas, the Nibelungen cycle; growth of heroic legend, with its relations in mythology and folklore.

**14—English Medieval Romances.** Miss STURTEVANT. 3 points.

M., W. and F. at 1.

Reading of Middle English texts with study of their traditional influences and their social significance as well as of their literary quality; Horn, Havelok, Morte d'Arthur, Malory, with study through translations of the history of the Arthurian cycle; popular ballad.

**15—The English Language.** Professor KRAPP. 2 points.

Tu. and Th. at 10.

A study of modern English from the point of view of history and use.

**16—Anglo-Saxon.** Professor KRAPP. 2 points.

Tu. and Th. at 10.

Reading of texts and study of Anglo-Saxon civilization.

**19—Chaucer.** Professor BALDWIN. 3 points.

M. and W. at 10.

The language and poetry of Chaucer, the ideas and literary habits of his time.

**20—The Renaissance in England.** Professor HALLER. 3 points.

M. and W. at 10.

Elizabethan non-dramatic literature, especially Sidney and Spenser, with readings in translation from continental literature to show foreign influences.

**25, 26—English Drama,** its earlier and its modern forms. Miss LATHAM. 6 points.

Tu., Th. and S. at 10 (I); M., W. and F. at 1 (II).

**27, 28—Shakspere.** Professor Wright. 6 points.

M., W. and F. at 2.

**29, 30—English Poetry from Milton through Dryden.** Professor TRENT.

6 points.

M. and W. at 10.

Biographical and critical study of the chief poets and their most significant works, with special emphasis on the career and character of Milton; lectures accompanied by extensive reading.

**31, 32—English Literature of the Eighteenth Century.** Professor TRENT. 6 points.

M. and W. at 11.

Biographical and critical study of selected poets and prose writers and of their most significant works; lectures accompanied by extensive reading.

**33, 34—The English Novel** from the sixteenth century to the present, with attention to the relationship between English fiction and that of France and Russia. Professor HOWARD. 6 points.

M., W. and F. at 11.

**41, 42—The Age of Wordsworth.** Professor Haller. 6 points.

M., W. and F. at 2.

The poetry of Burns, Wordsworth, Coleridge, Scott, Shelley, Keats, and Byron with special reference to the influences of the French Revolution.

**§43, 44—English Victorian Literature.** Professor HUBBARD. 6 points.

M., W. and F. at 11.

Except in special cases, Course 43 is prerequisite to Course 44.

Carlyle, Mill, Tennyson, Newman, Arnold, Ruskin, Pater, Browning, Morris, Rossetti, Swinburne, Kipling.

**§45, 46\*—English Literary Criticism.** Professor HUBBARD. 6 points.

Tu. and Th. at 11.

Open by special permission of the instructor, to qualified juniors and seniors.

Winter session: Typical theories of criticism and of poetry from Plato and Aristotle down through the nineteenth century critics.

Spring session: Application of these theories to some special period or type of literature, the subject changing from year to year.

\* Course 45 will not be given in 1921-22. Students wishing a winter session course in the same field may, with the permission of the instructor in each case, elect Course 269 or take Course 7 as a reading course in criticism of the drama, going on with Course 46 in the spring session.

**47, 48—American Literature.** Professor BAKER. 4 points.

Tu. and Th. at 9.

### Elocution

**XI—Voice Training.** Systematic instruction in effective enunciation. Mrs. DAVIS and Miss MANSER. Prescribed for all students not excused by the instructor; to be taken usually in the freshman or the sophomore year.

M., W. and F. at 10 (I), at 11 (II), at 2 (III) (this section is intended for students from foreign countries), at 3 (IV).

**X2—Voice Training.** Identical in content and conditions with Course **XI.**  
Mrs. DAVIS and Miss MANSER.

M., W. and F. at 9 (I), at 10 (II), at 1 (III), at 2 (IV).

**53-54—Elocution and Public Speaking.** Professor Tassin. 5 points.  
(elocution, 2 points; public speaking, 3 points).

M., W. and F. at 1.

## FINE ARTS AND ARCHITECTURE

### Architecture

For other detailed information students are referred to the Announcement of the School of Architecture.

**\* 21, 22—History of Ancient Architecture.** Professor HAMLIN. 4 points.  
21, Tu. and Th. at 11; 22, M. and F. at 12.

A knowledge of freehand drawing is essential for the collateral work required.

Analysis and critical discussion of the Architectures of Egypt, Assyria, Persia, Judea, Greece and Rome.

**\* 23, 24—Medieval and Oriental Architecture.** Professor HAMLIN. 4 points.

Tu. and Th. at 9.

Prerequisite, Course 21, 22. A knowledge of freehand drawing is essential for the collateral work required.

Romanesque and Gothic styles; Moslem and Oriental architecture; analytical and critical discussion of the medieval styles.

**\*25, 26—Renaissance and Modern Architecture.** Professor HAMLIN. 4 points.

M. and F. at 10.

Prerequisite, Course 23, 24. A knowledge of freehand drawing is essential for the collateral work required.

The architecture of the Renaissance in Italy, France, Germany, Spain, the Low Countries, and England; architecture of the nineteenth century in Europe; American architecture; modern and contemporary developments and tendencies. Analytical and critical discussion of architecture since 1420.

**\* 27—Historic Research: Ancient and Medieval, Renaissance, Modern and Oriental Architecture.** Professor HAMLIN and Mr. DINSMOOR. The equivalent of 4 hours' research weekly. 2 points.

Hour to be arranged.

Prerequisite, or parallel, Course 23, 24, or 25, 26.

Studies upon assigned subjects.

**\* 31, 32—Ancient Ornament.** Professor HAMLIN. 4 points.

31, M. at 12; 32, Th. at 11.

Prerequisite, a knowledge of freehand drawing and water colors.

Origins and general considerations; primitive and savage ornament; the historic ornament of Egypt, Assyria, Persia, Greece and Rome, including Aegean, Cypriote, Phoenician and Etruscan ornament; the development of the styles, the common motives and patterns of both architectural ornament and the minor arts.

**\* 33, 34—Medieval and Oriental Ornament.** Professor HAMLIN. 4 points.

33, W. at 12; 34, Tu. at 11.

Prerequisite, Course 31, 32, and a knowledge of freehand drawing and water colors.

The ornament of the early Christian, Byzantine, Romanesque and Gothic styles, both in architecture and the minor arts; Moslem and Indian ornament; the development of styles, motives, and patterns.

\* 35, 36—**Modern Ornament.** Professor HAMLIN. 4 points.

W. at 10.

Prerequisite, Course 31, 32, and a knowledge of freehand drawing and water colors.

The ornament of the Renaissance in Italy, France, Germany, Spain, the Netherlands and England; American colonial ornament; developments in the nineteenth century in Europe and America; modern phases and tendencies in ornament.

\* 41, 42—**Decorative Arts.** Mr. LAUBER. 4 points.

M. at 9 and W. at 3.

Prerequisite, a knowledge of freehand drawing and water colors.

A detailed treatment of the processes involved in mosaic, mural painting, architectural sculpture, ceramics, stained glass, plaster, metal, and wood-work, followed by an analysis of the abstract principles controlling decorative composition and the practical methods of obtaining decorative results.

**FRENCH.** See *Romance Languages and Literatures*.

#### GEOGRAPHY<sup>1</sup>

1, 2—**Physical and Economic Geography.** Miss HOLZWASSER. 6 points.

M., W. and F. at 9.

#### GEOLOGY<sup>1</sup>

1-2 (10-11)—**General Geology.** Elementary course. Professor OGILVIE and Miss HOLZWASSER. 2 lectures, 4 hours of laboratory work. 8 points.

1-2, Tu. and Th. at 11. Laboratory work, M. and W., 1-3, Tu. and Th., 2-4. (If necessary, a third laboratory section will be arranged.) Occasional Saturday field trips in the spring.

10—The equivalent of 1, is open to students who want to begin a science course in February.

10, Tu. and Th. at 10. Laboratory work, Tu. and Th. afternoons.

5-6—**Applied Geology.** Professor OGILVIE and Dr. Mook. 4 points for students who have taken Course 1-2 or its equivalent, 6 points for students who have not taken Course 1-2.

Hours to be arranged.

A study of the application of geology to engineering, water-supply, mining, conservation of natural resources, and industrial development.

[17—**Glacial Periods**, their causes and their after-effects. Professor OGILVIE. 2 points.

Prerequisite or parallel, Course 1-2.

*Not given in 1921-22.]*

20—**Historical Geology**, considered in greater detail than in Course 2. Dr.

<sup>1</sup> In the reckoning of points for major and minor subjects, geography, geology and mineralogy may be counted as one subject.

**Mook.** 2 lectures, 2 hours of laboratory work. 3 points.

Hours to be arranged.

Prerequisite, Course 1-2.

**113—Summer Field Course.** Professor OGILVIE or Dr. Mook. 2 weeks in the field involving the subsequent preparation of a report. 3 or 4 points.

Time to be arranged.

Prerequisite, Course 1-2.

Registration for this course must be made by April 15. An extra tuition fee is charged, depending upon the number of points of credit.

**115-116—Paleontology.** Miss HOLZWASSER. 6 points.

Hours to be arranged.

**\* 124—Glacial Geology and Advanced Physiography.** Professor OGILVIE. Lectures, reading, field and laboratory work. 3 points.

Hours to be arranged.

Prerequisite, Course 1-2.

**125-126—General Geology. Advanced Course.** Professor OGILVIE.

Hours and credit to be arranged.

Prerequisite, Course 1-2.

A study of the fundamental problems of vulcanism and diastrophism.

**133-134—Vertebrate Paleontology.** Dr. Mook. 2 lectures, 2 hours of laboratory work, part of which will be given at the American Museum of Natural History. 6 points.

Hours to be arranged.

An introduction to the study of fossil vertebrates.

**[135, 136—Local Geology of New York.]** Field work in autumn and spring; laboratory work and lectures on local topics in winter. Professor OGILVIE. 2 points.

Prerequisite, Course 1-2.

*Not given in 1921-22.]*

**Journal Club.** The instructors in Columbia University and advanced students meet one evening fortnightly for the discussion of current papers and problems. The meetings of the Journal Club are open to Barnard students taking courses in geology.

Other courses given at Columbia University are described in the Announcement of the Division of Geology, Geography, and Mineralogy.

## GERMANIC LANGUAGES AND LITERATURES

(See also *Introduction to the Study of the Science of Language*, p. 78)

Under the requirements in Foreign Languages (see p. 56) no German courses are prescribed and none can therefore automatically excuse the student from the departmental test in the major requirement. Courses 1-2, and 3, 4, or 5, 6, or 7, 8 would probably enable the student to pass the reading part, and Courses 3a, 4a and 9, 10 the oral part of the special language test, if German is chosen as a major language. Phonographic records are available for further aural and oral practice. The minor requirement can be satisfied, in German, either by a satisfactory grade in Elementary and Intermediate Entrance German (3 units), or by a grade of C or better in Course 1-2 and 3a, 4a, or Course 3 in the case of students who offered only Elementary German at entrance.

**1-2—Beginners' Course.** Elements of grammar, easy reading, written and oral practice. Dr. PUCKETT. 6 points.

M., W. and F. at 11.

**3, 4—Intermediate Course.** Dr. HASKELL. 6 points.

M., W. and F. at 1.

Prerequisite to Course 3, Course 1-2, or Elementary Entrance German. Prerequisite to Course 4, Course 3 or Intermediate Entrance German.

Rapid reading of texts, with practice in conversation, and a review of syntax.

**3a, 4a—Elementary Composition and Colloquial Practice.** Dr. PUCKETT. 4 points.

Tu. and Th. at 11.

Prerequisite, Course 1-2, or Elementary Entrance German.

Students who failed at entrance in German x or German y should elect Course 3a, 4a. Work done in this course in preparation for German y will not count for credit.

**5, 6—Selected Dramas of Lessing, Goethe, and Schiller.** Professor BRAUN and Dr. PUCKETT. 6 points.

M., W. and F. at 9 (I), at 11 (II).

Prerequisite to Course 5, Course 3, 4, or a good grade in Intermediate Entrance German. Prerequisite to Course 6, Course 5.

The course emphasizes literary appreciation rather than practice in the language. A desirable prerequisite to courses in German literature.

**7, 8—Modern German Prose.** Professor BRAUN and Dr. PUCKETT. 6 points.

M., W. and F. at 10.

Prerequisite, Course 3, or Intermediate Entrance German.

Rapid reading of modern German historical, critical, and scientific prose. Structure and development of vocabulary.

**9, 10—Intermediate Practice Course.** Professor BRAUN. 4 points.

Tu. and Th. at 10.

Prerequisite, Course 3 or 3a, 4a, or Intermediate Entrance German.

Conversation and themes. This course should be taken by all students intending to qualify as teachers of German.

**25, 26—The Drama of the Nineteenth Century.** Professor BRAUN. 4 points.

M. and W. at 1.

Prerequisite, Course 5, 6, or 7, 8.

Winter session: Kleist, Grillparzer, Hebbel; Spring session: Sudermann, Hauptmann, and the late 19th century realists.

**[29—Studies in Literary Forms: The German Lyric.** Dr. PUCKETT. 2 points.

*Not given in 1921-22]*

**[30—Studies in Literary Forms: The German Novelle.** Dr. PUCKETT. 2 points.

*Not given in 1921-22.]*

**37, 38—History of German Literature from the earliest times to the Nineteenth Century.** Professor BRAUN. 4 points.

Tu. and Th. at 11.

Course 37 is open to juniors and seniors who have taken Course 5, 6 or 7, 8; Course 38, except by special permission of the instructor, is open only to those who have passed Course 37 satisfactorily.

[39, 40—**Goethe's Faust**; First and Second Parts. Professor BRAUN. 4 points.

Open to juniors and seniors who have taken Course 5, 6 or 7, 8.

*Not given in 1921-22.]*

**49, 50—The Development of German Life and Institutions.** Professor BRAUN and Dr. PUCKETT. 4 or 6 points. For students who have no reading knowledge of German the credit will be 4 points. Those who complete a proportionate amount of additional reading in German sources may count it as a 6-point course.

Tu. and Th. at 9.

Not open to freshmen.

Except by special permission Course 50 is open only to those who have passed Course 49. The intellectual life of the German people as expressed in their literature and art, as well as in their public institutions, from the earliest times to the present.

**\* 120—Literary Relations between Germany and England in the Eighteenth Century.** Dr. PUCKETT. 2 points.

Tu. and Th. at 5.

Open to qualified seniors after consultation with the instructor. The course deals chiefly with the influence of English literature on that of Germany. The lectures will trace this influence on the drama, the novel and other literary forms. Reports and a theme,

Other courses given at Columbia University are described in the Announcement of the Division of Modern Languages and Literatures.

## GOVERNMENT

**1, 2—American Government.** Mr. LEIGH. 6 points.

M., W. and F. at 2.

Prerequisite, History A<sub>1</sub>-A<sub>2</sub>.

The course surveys the fundamental American political institutions and actual governmental practices, and deals with historical origins, comparisons with European political practice, and specific contemporary political problems.

**12—American Political Experiments.** Mr. LEIGH. 3 points.

M., W. and F at 1.

Prerequisite, Course 1, 2 or special permission of the instructor.

Analysis of representative and electoral mechanisms such as proportional representation and initiative and referendum; administrative devices such as grants in aid, coöordination and consolidation of departments and the problems of administrative personnel; devices for expression of public opinion and exertion of political pressure including political parties, civic and reform organizations; comparison of the literature and programs of reform with available results of actual governmental experience.

**\* 105—American Municipal Problems.** Professor McBAIN. 3 points.

Tu. and Th. at 4.

Open to specially qualified seniors.

**\* 106—Problems of Democracy.** Professor McBAIN. 3 points.

Tu. and Th. at 4.

Open to specially qualified seniors.

## GREEK AND LATIN

### Classical Civilization

**51—Greek Life and Thought;** a survey of Greek civilization. Professor VAN HOOK and Miss GOODALE. 3 points.

M., W. and F. at 1.

Open to all excepting freshmen.

**52—Greek Art.** Professor YOUNG. 3 points.

M., W. and F. at 1.

Open to all excepting freshmen.

**53, 54—Roman Life and Thought;** a survey of Roman civilization. Professor KNAPP. 4 points.

Tu. and Th. at 2.

Open to all excepting freshmen. Students are strongly advised to take the entire course.

The winter session will be devoted mainly to Roman private life, the spring session, in part to Roman public life, in part to Roman philosophy and Roman art.

**55, 56—Greek Literature in Translation.** Mrs. PUTNAM. 4 points.

Tu. and Th. at 11.

Open to all excepting freshmen. Students are strongly advised to take the entire course.

This course consists of copious reading by students in the best translations of all important Greek authors from Homer to Lucian, with explanatory lectures.

**57, 58—Latin Literature in Translation.** Professor KNAPP. 4 points.

Tu. and Th. at 10.

Open to all excepting freshmen. Students are strongly advised to take the entire course.

The work in the winter session will be devoted chiefly to the beginnings, Plautus, Terence, Ennius, Lucretius, Catullus; the spring session to Vergil, Horace, Ovid.

**[59—Greek and Roman Philosophy in Translation.** 3 points.

Open to all excepting freshmen.

*Not given in 1921-22.]*

See also **History 7-8**, The History of Greece to the Roman Conquest; **History 9-10**, The History of Rome to the Disruption of the Empire; and **Introduction to the Study of the Science of Language**, page 78.

### Greek

**1-2—Elementary Course.** Grammar, Composition, Selected Readings in Prose and Verse. Homer's Iliad. Professor HIRST. 3 recitations, 2 hours unprepared work in class-room. 8 points.

M., Tu., W., Th. and F. at 2.

This course may not be begun in the spring session.

**11—Homer: Odyssey; and Lucian: Selections.** Professor VAN HOOK. 3 points.

M., W. and F. at 10.

Prerequisite, Course 1-2, or Elementary Entrance Greek.

**12—Plato: Apology and Crito; Euripides: Alcestis.** Professor PERRY. 3 points.

M., W. and F. at 10.

Prerequisite, Course 1-2, or Elementary Entrance Greek.

**19-20—Prose Composition. First Course.** Professor PERRY. 2 points. Hour to be arranged.

May be taken in connection with any other course (except 1-2), but not

separately, except by special permission; particularly recommended to students who have taken only Course 1-2.

**21—Greek Tragedy.** A play of *Æschylus*, and a play of *Sophocles*, will be read in class; a play of *Euripides* will be assigned for private reading. Professor PERRY. 3 points.

M., W. and F. at 11.

Prerequisite, Advanced Entrance Greek, or Course 11 or 12.

**22—Greek Comedy.** Several plays of *Aristophanes*, including the *Clouds* and the *Frogs*. Professor VAN HOOK. 3 points.

M., W. and F. at 11.

Prerequisite, Advanced Entrance Greek, or Course 11 or 12.

**25—Herodotus: Selections.** Greek life and thought at the period of the Persian wars,. Professor HIRST. 2 points.

Tu. and Th. at 11.

Prerequisite, Course 1-2, or Elementary Entrance Greek.

**26—Greek Drama.** An introduction to the Greek drama and the Greek theatre. Two plays will be read. Professor VAN HOOK. 2 points.

Tu. and Th. at 11.

Prerequisite, Course 1-2, or Elementary Entrance Greek.

**39-40—Advanced Prose Composition.** Professor PERRY. 2 or 4 points. Hour to be arranged.

Prerequisite, Course 19-20.

May be taken in connection with any other course, but not separately, except by special permission. The course may be taken with credit two years in succession.

**41, 42—Greek Literature;** general survey, with extensive reading of numerous authors, mostly poets. Professor VAN HOOK. 6 points.

Hours to be arranged.

Prerequisite, Courses 21, 22, or 25, 26.

See above, under **Classical Civilization**, p. 87.

#### Latin

**1-2—Elementary Course.** Grammar, Composition, Selected Readings in Prose and Verse. Miss GOODALE. 3 recitations, 2 hours unprepared work M., Tu., W., Th. and F. at 2.

Open to all students who have not offered Latin at entrance.

This course may not be begun in the spring session.

The aim of the course will be to cover somewhat more than the work of the first two years in Latin of the four-year high school course.

**3—Selections from Vergil: Aeneid.** Parts of the *Aeneid* will be read and the poem will be studied as a whole. Miss GOODALE. 3 points.

M., W. and F. at 9.

Prerequisite, Course 1-2.

**11—Livy: Selections; Catullus: Selections.** Professor HIRST and Miss GOODALE. 3 points.

M., W. and F. at 1 (I); Tu., Th. and S. at 9 (II).

Prerequisite, Courses 1-2, 3, or their equivalent in Entrance Latin.

Conditioned students should elect Section I of Courses 11, 12.

**12—Horace: Selected Odes and Epodes.** Professor HIRST and Miss GOODALE. 3 points.

M., W. and F. at 1 (I); Tu., Th. and S. at 9 (II).

Prerequisite, Courses 1-2, 3, or their equivalent in Entrance Latin.

**14—Livy: Selections; Catullus: Selections.** Identical in contents and credit with Course 11. Miss Goodale.

M., W. and F. at 9.

Prerequisite, Courses 1-2, 3, or their equivalent in Entrance Latin.

**17-18—Lectures on Latin Literature.** Professor KNAPP. 2 points.

W. at 3.

Open to students who are taking any reading course in Greek or Latin; particularly recommended to students in Courses 11, 12 and 14.

The importance of Latin literature among the great national literatures.

**19-20—Latin Composition. First Course.** Miss GOODALE. 2 points.

Hour to be arranged.

May be taken in connection with any other course, but not separately, except by special permission.

**21—Horace: Satires and Epistles.** Professor LODGE. 3 points.

M., W. and F. at 9.

Prerequisite, Advanced Entrance Latin or Course 11, or 12, or 14.

**22—Juvenal; Martial; Pliny:** Roman life and thought in the early Empire. Professor HIRST. 3 points.

M., W. and F. at 9.

Prerequisite, Advanced Entrance Latin or Course 11, or 12, or 14.

**27—Vergil: Selections from the Georgics.** Professor HIRST. 2 points.

Tu. and Th. at 10.

Prerequisite, Advanced Entrance Latin, or Course 11, or 12, or 14.

**28—Plautus and Terence: Selections.** Professor LODGE. 2 points.

Tu. and Th. at 10.

Prerequisite, Advanced Entrance Latin, or Course 11, or 12, or 14.

**29-30—Prose Composition. Second Course.** Professor KNAPP. 2 points.

Hour to be arranged.

Prerequisite, Course 19-20.

May be taken in connection with any other course, but not separately, except by special permission.

**41, 42—Latin Literature;** general survey, with extensive reading of various authors. Professor KNAPP. 6 points.

Tu. and Th. at 3, and a third hour to be arranged. (All three hours will be arranged, if necessary.)

Prerequisite, Courses 21, 22, or 25, 26.

\* **139-140—Prose Composition. Advanced Course.** Professor MOORE.

4 points.

Hour to be arranged.

Prerequisite, Course 29-30.

Open to specially qualified seniors.

See also under **Classical Civilization**, page 87.

## HEBREW

**Course 101-102,** Elementary Course in Biblical Hebrew, Professor Gottheil, is open with the consent of the Department of Semitic Languages and the Committee on Instruction to specially qualified juniors and seniors.

## HISTORY

**A1-A2 (A4-A5)—Survey of European History from the break-up of the Roman Empire to the World War.** Professors MUZZEY, HUTTMAN, and KNIGHT, Miss YOUNG and Miss BURNE. 6 points.

**A1-A2**, M., W. and F. at 9 (I), at 1 (II), at 11 (III); Tu., Th. and S. at 9 (IV), at 10 (V).

Prescribed for freshmen.

**A4,** the equivalent of **A1**, is prescribed for students entering college in February; and **A5**, the equivalent of **A2**, is prescribed for these students in the winter session of the following year.

**A4-A5**, M., W. and F. at 10.

*This course serves as a background for further historical study, and is a prerequisite for every course listed below.*

**[7-8—The History of Greece to the Roman Conquest.**  
6 points.

A survey of Greek history from the earliest times to the Roman conquest. Special attention will be given to the cultural aspects, social and economic conditions, the development of art, literature and religion.

*Not given in 1921-22.]*

**[9-10—The History of Rome to the Disruption of the Empire.** 6 points.

A survey of Roman history from the earliest times to the Roman conquest. Special attention will be given to the cultural aspects, social and economic conditions, the development and influence of art, literature, religion and the Roman law.

*Not given in 1921-22.]*

**[11, 12—The Political and Social History of England.** Professor HUTTMAN. 4 or 6 points.

*Not given in 1921-22.]*

**13, 14—The British Empire.** Professor HUTTMAN. 4 or 6 points.  
Tu. and Th. at 2.

Beginning with a survey of England's colonial expansion in the 17th and 18th centuries, the course will treat especially of the Empire in the 19th and 20th centuries. It will consider Great Britain and Ireland as well as the self-governing dominions, India and the protectorates.

**17, 18—The Development of the European States from the Protestant Revolt to the End of the Napoleonic Empire.** Professor KNIGHT. 4 points.  
Tu. and Th. at 9.

This course emphasizes the development of the great national States of Europe under the Hapsburg, Hohenzollern, Romanov and Bourbon dynasties, and also deals with the Scandinavian and Iberian peninsulas, the Dutch and Swiss Republics, the continental and colonial rivalries of the 17th and 18th centuries and the influence of the French Revolution.

**19, 20—Survey of American History from the End of the Colonial Period.** Professor Fox. 6 points.

M., W. and F. at 10.

This course deals with the establishment and development in the New World of European institutions; the union and the organization of the United States; politics and foreign relations culminating in the War of 1812; the influence of manufactures, the frontier and slavery; the Civil War; reconstruction and modern, political, industrial and social readjustment.

*The following courses, open to juniors and seniors, offer the students training in independent research, supervised by the instructor:*

**51, 52—The History of the United States since 1865.** Professor MUZZEY. 4 or 6 points.

Tu. and Th. at 2.

Course 52, except by special permission of the instructor is open only to students who have taken Course 51. Course 19, 20 is a prerequisite for Course 51, 52.

This course will deal during the winter session with the problems of political, fiscal, and social reconstruction following the Civil War, and culminating in the campaign of 1896. In the spring session the main topics of study will be Imperialism, the Roosevelt policies, the Progressive movement, the Wilson administrations, and the great economic questions of the last quarter of a century.

**61, 62—The Political and Social History of Europe since the Congress of Vienna, with consideration of current events.** Professor HUTTMAN. 6 points.

M., W. and F. at 11.

Course 62, except by special permission of the instructor, is open only to students who have taken Course 61.

This course covers the period from 1815 to 1870 in the winter session, and deals with the domination and fall of Metternich, nationalism, the unification of Italy and Germany, trade-unionism and socialism, democracy and anti-clericalism. The chief topics dealt with in the spring session are the third French Republic, the German Empire, the Russian revolutions, the Balkans, Imperialism, the partition of Africa and the causes of the World War.

**71, 72—The History of Eastern Europe.** Professor KNIGHT. 6 points.

M., W. and F. at 3.

This course deals with the origins of Russia, Turkey, and the Balkan States; the political, economic and religious questions of the Near East in the 19th century; with the "Eastern Question", the recent development of Russia, and the status of the Balkans.

**81, 82—The History of European Thought and Culture.** Professor MUZZEY. 4 points.

Tu. and Th. at 3.

This course follows the intellectual development of man from primitive societies to the present day. It deals with the thought and culture of the ancient civilizations; with the philosophy and the institutions of the Middle Ages; with the birth of the scientific spirit, and with subsequent movements and speculation in various fields of religious, intellectual and social interest.

*The following graduate courses are open to qualified seniors.*

**\* 153, 154—The Social History of Western Europe from the Middle of the Eighteenth Century to 1871.** Professor HAYES. 6 points.

Tu. and Th. at 2.

Prerequisite, Course 61-62.

**\* 172—History of European Expansion in America.** Professor BOLTON. 3 points.

M. and W. at 11.

Prerequisite, a more advanced course than Course A1-A2.

See also **German 49, 50**, a course in the Development of German Life and Institutions (p. 90) and **Government 1-2**, and **12** (p. 90).

**ITALIAN.** See **Romance Languages and Literatures**

LATIN. See Greek and Latin  
 MATHEMATICS

**A1-A2 (A4-A5)**—Mathematics. A general course covering the elements of trigonometry, analytical geometry and calculus, designed to emphasize the cultural and vocational aspects of these subjects. Professor MULLINS, Dr. LAMSON and Mr. NORDGAARD. 6 points.

**A1-A2**, M., W. and F. at 9 (I), at 10 (II, III), at 11 (IV); Tu., Th. and S. at 9 (V), at 10 (VI), at 11 (VII).

**Mathematics A** (complete) is prescribed for all freshmen who enter without trigonometry. Students offering trigonometry at entrance should take Course **A5** to complete the requirement.

**A4**, the equivalent of **A1**, is prescribed for students entering college in February; **A5**, the equivalent of **A2**, is prescribed for these students in the winter session of the following year.

**A4-A5**, M., W. and F. at 2.

**21**—Analytical Geometry. Introduction to the analytical geometry of the plane and of space. Professor KASNER. 3 points.

M., W. and F. at 11.

Prerequisite, Course **A**.

**22—Calculus**. Elementary course in differential and integral calculus. Professor MULLINS. 3 points.

M., W. and F. at 11.

Prerequisite, Course **21**.

**23-24—Algebra and Theory of Equations**. Algebraic and numerical solution of equations, determinants, complex numbers. Dr. LAMSON. 6 points.

M., W. and F. at 2.

Prerequisite, Course **A**.

**25-26—Calculus**. Differential and integral calculus. Professor COLE. 6 points.

M., W. and F. at 11.

Prerequisite, Course **22**.

**27—Projective Geometry**. Professor MULLINS. 3 points.

Tu., Th. and S. at 10.

Prerequisite, Course **21**.

**[28—Differential Equations]**. Professor MULLINS. 3 points.

Prerequisite, Course **25-26**.

*Not given in 1921-22.*

**30—Graphical Methods in Mathematics**. Professor MULLINS. 3 points.

M., W. and F. at 10.

Prerequisite, Courses **21,22**.

**[33-34—The Fundamental Concepts of Modern Mathematics]**. Lectures, discussions, and reports. Professor KASNER. 6 points.

*Not given in 1921-22.*

**35—General Introduction to Higher Mathematics**. Professor KASNER. 3 points.

M., W. and F. at 10.

Prerequisite or parallel, Course 25-26.

†351—**History of Mathematics.** Professor D. E. SMITH. 3 points.

M. and W. at 4.

### MINERALOGY<sup>1</sup>

1—**General Mineralogy.** Professor OGILVIE and Miss HOLZWASSER.

1 lecture, 4 hours of laboratory work. 3 points.

Hours to be arranged.

Prerequisite, a knowledge of elementary chemistry.

If there are less than six applications, arrangements may be made for parallel work in Columbia University.

2—**Blowpipe Analysis.** Professor OGILVIE. 1 lecture, 4 hours of laboratory work. 3 points.

Hours to be arranged.

Prerequisite, Course 1.

Subject to note under Course 1.

6—**Optical Mineralogy.** Professor OGILVIE. 1 lecture, 2 hours of laboratory work. 2 points.

Hours to be arranged.

Prerequisite, Course 1.

### MUSIC

\* 1-2—**General Musical Course.** History of Music from Palestrina to the death of Beethoven, with illustrations. Professor MASON. 4 points.

Tu. and Th. at 11.

This course requires no previous knowledge of music.

\* 3-4—**General Musical Course, Advanced.** Discussion of modern music. Professor MASON. 4 points.

M. and W. at 10.

Students are advised, though not required, to take Course 1-2, or its equivalent, before Course 3-4.

\* 7, 8—**Harmony.** Mr. BINGHAM and Mr. HOUGH. 6 points.

M., W. and F. at 1.

Prerequisite, a knowledge of musical notation, an accurate ear, and the ability to play simple chord successions on the piano.

\* 9-10—**Advanced Harmony and Elementary Form.** Mr. BINGHAM and Mr. HOUGH. 6 points.

M., W. and F. at 2.

Prerequisite, Course 7, 8.

\* 11, 12—**Counterpoint.** Mr. BINGHAM. 4 points.

Tu. and Th. at 10.

Prerequisite, Course 9-10.

Other courses given at Columbia University are described in the Announcement of the Department of Music.

<sup>1</sup> In the reckoning of points for major or minor subjects, mineralogy and geology may be counted as one subject.

## PHILOSOPHY

**A—Introduction to Philosophy.** Professor MONTAGUE, Dr. PARKHURST, and Dr. PICARD. 3 points.

Winter session: M., W. and F. at 9 (I), at 11 (III).

Spring session: M., W. and F. at 9 (II); Tu., Th. and S. at 10 (IV).

Prescribed for sophomores or freshmen unless Course **61-62** is taken in the junior or senior year.

**2—Logic, Inductive and Deductive.** Professor MONTAGUE. 3 points. M., W. and F. at 10.

**21-22—Ethics, Individual and Social.** Professor LORD. 8 points. M., W. and F. at 1.

Open to juniors and seniors.

**41—Esthetics.** Dr. PARKHURST. 3 points. Tu. and Th. at 11.

Open to juniors and seniors, and to sophomores who have taken, or who are taking, Course **A**.

**61-62—The History of Philosophy.** Professor MONTAGUE and Dr. PICARD. 6 points.

M., W. and F. at 9.

Open to juniors and seniors. May be substituted by students of these classes for Course **A**.

**66—Philosophy of Religion.** Professor BUSH. 3 points. Tu. and Th. at 11.

Open to juniors and seniors.

**79-80—Contemporary Philosophy.** Dr. PARKHURST. 6 points. Th. and Th. at 10.

Open to juniors and seniors.

Other courses given at Columbia University are described in the Announcement of the Division of Philosophy, Psychology and Anthropology.

## PHYSICAL EDUCATION

A physical and medical examination is required of all entering students.

**A—Courses A<sub>1</sub>, A<sub>2</sub>, and A<sub>3</sub>** are prescribed for all freshmen entering in September; **A<sub>2</sub>** and **A<sub>4</sub>** are prescribed for all freshmen entering in February. The work is divided as follows.

**A<sub>1</sub>, A<sub>2</sub>**—Two hours of graded gymnastics a week:

M. and W. at 11 (I), at 2 (II), at 3 (III)

One hour a week of athletics, games, dancing or swimming. Hours to be arranged on Tu., Th. or F.

**A<sub>3</sub>—General Hygiene:** Tu. at 11 (I); Th. at 1 (II).

**A<sub>4</sub>**—Identical in content with **A<sub>3</sub>**, prescribed for freshmen entering in February, or for students unable to arrange for **A<sub>3</sub>**.

F. at 1 (I); W. at 11 (II).

At the end of the freshman year all freshmen who have qualified may take the efficiency test for exemption from graded gymnastics during the sophomore year, and substitute 3 hours a week of athletics, games, dancing or swimming

A physical examination is required at the end of the spring session.

**B**—Courses **B<sub>1</sub>**, **B<sub>2</sub>**, are prescribed for all sophomores. The work is divided as follows:

**B<sub>1</sub>, B<sub>2</sub>**—Two hours of graded gymnastics a week:

Tu. and Th. at 11 (I), at 3 (II).

One hour a week of athletics, games, dancing or swimming. Hours to be arranged on M., W. or F.

**C<sub>1</sub>, C<sub>2</sub>**—Athletics, games, dancing, swimming or prescribed work, two hours a week, to be elected in any authorized activity, depending upon the student's physical condition. Specific work will be prescribed only in special cases.

Hours to be arranged.

Prescribed for juniors.

A course in human biology (see Zoölogy C) is prescribed for all juniors, unless under special circumstances permission is given to postpone the course until the senior year.

**D<sub>1</sub>, D<sub>2</sub>**—Athletics, games, dancing, and swimming. Two hours a week. Substitution of approved activities will be allowed in special cases.

Hours to be arranged.

Prescribed for seniors.

**14**—A course for camp councillors or social workers, designed to teach methods of handling groups of girls at summer camps and social centers in basket ball, base ball, track, swimming, group games, and instruction in all general camp activities.

Hours to be arranged.

Prerequisite, Courses **A** and **B**.

This course may be substituted for Course **C<sub>2</sub>** or **D<sub>2</sub>**.

**101, 102**—Graded gymnastics, dancing, organized games, swimming, for women graduate students under the Faculties of Philosophy, Political Science and Pure Science, and women students in the schools of Architecture, Business, Journalism and Medicine. 2 points.

All regular sections are open provided the registration is not already filled by undergraduate students.

The prescribed gymnasium and field costume consists of dark blue bloomers, white sailor blouses, black sailor ties, and high white tennis shoes. Approximate cost, \$10. Swimming suits, \$1.50. Costumes to be purchased at Students Hall.

## PHYSICS

**11-12**—General Physics. Professor MALTBY, Miss LANGFORD and Mrs. SEVERINGHAUS. 2 lectures, 1 discussion hour, 2 or 3 hours of laboratory work. 8 or 9 points. Pre-medical students are required to take 3 hours of laboratory work.

M. and W. at 11, and F. in sections as follows: at 1 (for pre-medical and biological students), or at 2 (for students majoring in mathematics), or at 11 (for chemists and other students).

Prerequisite, the elements of trigonometry.

**31**—Mechanics. Miss LANGFORD. 3 hours, lectures and discussions, 2 or 4 hours of laboratory work. 4 or 5 points.

M., W. and F. at 9 (or hours to be arranged).

Prerequisite, Course 11-12, except by special arrangement.

**32—Heat and the Properties of Matter.** Miss LANGFORD. 3 hours, lectures and discussions, 2 or 4 hours of laboratory work. 4 or 5 points.

M., W. and F. at 9 (or hours to be arranged).

Prerequisite, Course 31, except by special arrangement.

**33—Sound.** Professor MALTBY. 3 hours, lectures and discussions, 2 hours of laboratory work. 4 points.

Hours to be arranged.

Prerequisite, Course 11-12.

**34—Light.** Miss LANGFORD. 3 hours, lectures and discussions, 2 hours of laboratory work. 4 points.

Hours to be arranged.

Prerequisite, Course 11-12.

**35—Electricity and Magnetism.** Miss LANGFORD. 3 hours, lectures and discussions, 2 or 4 hours of laboratory work. 4 or 5 points.

M., W. and F. at 1.

Prerequisite, Courses 31 and 32, except by special arrangement.

**36—Electricity.** Miss LANGFORD. 3 hours, lectures or discussions, 2 or 4 hours of laboratory work. 4 or 5 points.

M., W. and F. at 1.

Prerequisite, Course 35.

**137—History of the Development of Some Fundamental Theories in Physics.** Professor MALTBY. Lectures, readings, reports and discussions. 3 points.

Hours to be arranged.

Prerequisite, some of the advanced courses in physics.

This course is designed to give the students a more comprehensive view of the development of certain fundamental theories, of the experiments which have been crucial, and the bearing of experimental evidence from various fields of physics upon these theories.

**138—Theory of Electricity.** Professor MALTBY. Readings and discussions. 3 points.

Hours to be arranged.

Prerequisite, Courses 35, 36.

## PSYCHOLOGY

**A—Elements of Psychology.** Professors MONTAGUE and HOLLINGWORTH, Dr. PARKHURST, Dr. GATES, and Dr. PICARD. 3 points.

Winter session: M., W. and F. at 9 (I); Tu., Th. and S. at 10 (III).

Spring session: M., W. and F. at 9 (II); at 11 (IV).

Prescribed for sophomores or freshmen unless **Philosophy 61-62** is taken in junior or senior year.

An introduction to the chief facts, principles and problems of normal adult psychology, through systematic study of a text, lectures, exercises, and reading in special fields.

**7-8—Experimental Psychology, Results and Applications.** Professor HOLLINGWORTH and Dr. GATES. 2 lectures and 1 demonstration hour. 4 points.

M., W. and F. at 11.

**Prerequisite, Course A.** Students counting psychology as a required science must take Course 17-18 as a parallel course.

A lecture and demonstration course, with reading, presenting the outstanding results and practical applications of experimental psychology.

**17-18—Experimental Psychology, Methods and Problems.** Dr. GATES. 4 hours of laboratory work. 4 points.

M. at 11, and 3 consecutive hours; Tu., 2-5; or W., 1-4; or Th., 1-4.

Prerequisite, Course A and Course 7-8 as a parallel course.

Each student conducts a series of typical individual experiments, participating in certain group experiments, prepares systematic reports of results and becomes familiar with the literature of experimental psychology.

**19—Developmental Psychology.** Professor HOLLINGWORTH. 3 points.

Tu. and Th. at 10.

Prerequisite, Course A.

Lectures, reading and individual reports on the evolution of mind, its development in infancy, childhood, adolescence, maturity and old age, factors involved in mental and social adjustment and in the origin and perpetuation of social institutions.

**20—Abnormal Psychology.** Professor HOLLINGWORTH. 3 points.

Tu. and Th. at 10.

Prerequisite, Course 7 or 19.

A general survey of the field of psychopathology, the history of the subject, the more common forms of mental inadequacy and disturbance, and their psychological interpretation. Lectures, reading, lantern slides and case studies.

**21—Mental Measurement.** Professor HOLLINGWORTH. 1 lecture, 3 hours of laboratory work and special assignments. 3 points.

M. at 10, and 1-4.

Prerequisite, Course 17-18.

A systematic course on the principles and technique of mental measurement, the development and forms of mental tests, and the application of test methods in clinical practice, educational guidance, personnel selection and vocational direction.

**22—Animal Psychology—Dr. GATES.** 4 points.

M., W. and F. at 9.

Prerequisite, Course A.

The behavior of animals lower than man is studied with a view to understanding animal mind and relating it to mental life of man.

Other courses in psychology, given in Teachers College and in Columbia University, may be taken by students who have completed the Barnard program, or are otherwise specially qualified.

## RELIGION

**1, 2—The Bible.** Professor FOAKES JACKSON and CHAPLAIN KNOX. 4 points.

Tu. and Th. at 11.

This course provides for the thorough study of the Bible by the best known methods of scholarly investigation and interpretation. The study includes the stories of Genesis, the law books, the prophets, the books of Job, Jonah, Daniel, the Gospel narratives and the letters of Paul.

**7—The Permanent Elements in Christianity.** Mr. POMEROY. 2 points.

Tu. and Th. at 2.

A study of certain fundamental characteristics of primitive Christianity and of the method of their application in certain periods of the Church's historic development with a view to ascertaining what are the permanent elements of organized Christianity.

## ROMANCE LANGUAGES AND LITERATURES

(See also *Introduction to the Study of the Science of Language*, p. 78)

## French

Under the requirements in Foreign Languages (see p. 56) no French courses are prescribed and none can therefore automatically excuse the student from the departmental test in the major requirement. Courses **1b**, **2b**, and **3**, **4** would probably enable a student to pass the special language test, if French is chosen as a major language. The minor requirement can be satisfied, in French, by a satisfactory grade in Intermediate Entrance French or by a grade of C or better in Course **1a-2a**.

**1a-2a** (old number **1-2**)—**Elementary Course.** Grammar, Reading, Conversation. Professor MULLER, Miss BIÉLER and Mr. VAILLANT. 3 recitations and 2 hours of practical work. 8 points.

M., Tu., W., Th. and F. at 9 (I), at 2 (II).

**1b, 2b** (old number **1a, 2a**)—**Reading, Composition, Syntax.** Professor MULLER, Miss PRENEZ, and Mr. VAILLANT. 6 points.

M., W. and F. at 11 (I), at 1 (II); Tu., Th. and S. at 9 (III).

Prerequisite to Course **1b**, Course **1a-2a**, or Elementary Entrance French.

Prerequisite to Course **2b**, Course **1b**, or Intermediate Entrance French.

**3, 4**—**General Introduction to the Study of French Literature.** Reading, composition, and lectures. Professor MULLER, Dr. LEDUC, Miss PRENEZ, and Mr. VAILLANT. 6 points.

General lecture for all sections: Th. at 1 (I), or at 3 (II) (as many as possible should elect the 1 o'clock hour); and in sections as follows:

M. and W. at 9 (III), at 1 (IV), at 10 (V); Tu. and S. at 10 (VI).

Prerequisite, Course **1b, 2b**.

The course presents a survey of French literature. The student is asked to read at least one work from each leading author from the seventeenth century to the present time.

**5, 6**—**History of French Literature in the Seventeenth Century.**<sup>1</sup> Professor LOISEAUX. 6 points.

M., W. and F. at 10.

Prerequisite, grade C in Course **3, 4**.

This course deals with the political, social and artistic life of the country as expressed in the works of the great writers of the classical period.

**9, 10**—**Intermediate French Composition.** Dr. LEDUC and \_\_\_\_\_ 4 points.

Tu. and Th. at 9 (I), at 11 (II).

Prerequisite, Course **1a**, or Intermediate Entrance French.

Review of French syntax; conversation.

**9a, 10a**—**Advanced French Composition.**<sup>1</sup> Dr. LEDUC. 4 points.

Tu. and Th. at 11.

Prerequisite, Course **5, 6**, or any higher course.

The course aims to give the student a more thorough understanding of the structure of the language, and a better control of it as an instrument of expression. Themes, oral reports, and intensive study of text.

**11, 12**—**French Conversation.** Practical phonetics, corrective exercises and elements of diction. Professors LOISEAUX and MULLER. 2 hours weekly. 2 points.

<sup>1</sup> Conducted entirely in French.

M. and W. at 2 (I), Tu. and Th. at 3 (II).

Prerequisite, Course 2b, or any higher course. This course is divisible only for students who are taking another French course.

In Course 12, a section will be reserved for seniors who intend to teach French.

**13, 14—French Literature from the Revolution to the Second Empire**<sup>1</sup>. Dr. LEDUC. 6 points.

M., W. and F. at 11.

Prerequisite, Course 3, 4, or the equivalent of Course 2b, with special training in the practical use of the language.

Special emphasis will be placed on the rise and development of the Romantic movement in France and its cosmopolitan aspects.

**15, 16** (old number 7-8)—**French Literature from the Second Empire to the present day**<sup>1</sup>. Miss PRENEZ. 6 points.

M., W. and F. at 1.

Prerequisite, Course 3, 4, or the equivalent of Course 2b, with special training in the practical use of the language.

The course includes a study of the various tendencies and literary developments which occurred since 1852 to our times with special attention paid to contemporary writers.

**17, 18—History of the French Drama**<sup>1</sup>. Professor MULLER. 6 points.

M., W. and F. at 2.

Prerequisite, Course 5, 6.

General survey of the development of the French drama from its origins to the present time. Reading and discussion of the most representative plays of the different periods.

**19, 20—History of French Civilization**<sup>1</sup>. Lectures, discussions and reports. Professor LOISEAUX. 4 points.

M. and W. at 1.

Prerequisite, Course 5, 6, or any higher course.

General survey of the development of French civilization from the Roman conquest to the present day. It deals with the political, artistic, literary and scientific activities of the French people in the formation of their national life, and their contribution to human progress.

\* **113, 114—French Literature in the Eighteenth Century**<sup>1</sup>. Professor LOISEAUX. 4½ points.

Winter session only: M., W. and F. at 3.

Prerequisite, Course 5, 6.

The spirit of the eighteenth century and its influence on the French Revolution and modern thought will be studied in the lives and works of Montesquieu, Voltaire, Rousseau, the Encyclopedists and the minor writers.

Other courses given at Columbia University are described in the Announcement of the Division of Modern Languages and Literatures.

### Italian

**1a-2a** (old number 1-2)—**Elementary Course**. Grammar, reading, composition. Professor BIGONGIARI. 6 points.

M., W. and F. at 1.

This course may not be taken at the same time as Spanish 1a-2a.

**1b, 2b** (old number 3-4)—**Advanced Course and Introduction to Italian Literature**. Reading, composition. Professor BIGONGIARI. 6 points.

Hours to be arranged.

Other courses given at Columbia University are described in the Announcement of the Division of Modern Languages and Literatures.

<sup>1</sup> Conducted entirely in French.

## Spanish

**1a-2a** (old number 1-2)—**Elementary Course.** Grammar, reading, composition. Miss MARCIAL-DORADO and Miss BIÉLER. 6 points.

M., W. and F. at 11 (I), at 9 (II).

This course may not be taken at the same time as Italian 1a-2a.

**1b, 2b** (old number 3-4)—**Advanced Course.** Grammar, reading composition. Miss MARCIAL-DORADO. 6 points.

M., W. and F. at 10 (I); Tu., Th. and S. at 9 (II).

Prerequisite, Course 1a-2a.

A rapid review of grammar and syntax, the reading of typical works by modern authors and advanced composition and conversation.

**3, 4** (old number 5-6)—**Practical Course and Introduction to Spanish Literature.** Lectures, discussions and reports. Miss MARCIAL-DORADO. 6 points.

M., W. and F. at 11.

Prerequisite, Course 1b, 2b.

Lectures on the history of Spanish literature and reading of selected works by representative authors, particularly Cervantes, Lope de Vega and Calderón. The course will be conducted in Spanish.

**\* 111, 112—El Siglo de oro de la literatura española.** Professor DE ONIS. 6 points.

M. and F. at 5.

Conferencias en español acompañadas de lecturas de obras escogidas.

Other courses given at Columbia University are described in the Announcement of the Division of Modern Languages and Literatures.

## Romance Philology

A course, French 101, 102, Introduction to Romance Philology (Phonology, winter session; Morphology, spring session) is open to properly qualified seniors by permission of the department.

## Russian

Course 101-102—Elementary Russian, Dr. Manning, 6 points, is open with the consent of the Department of Slavonic Languages and the Committee on Instruction to specially qualified juniors and seniors.

Other courses open to students who have some knowledge of Russian are described in the Announcement of the Division of Modern Languages and Literatures.

**SOCIOLOGY.** See **Economics and Sociology**

**SPANISH.** See **Romance Languages and Literatures**

## ZOOLOGY

**C<sub>1</sub>, (or C<sub>2</sub>)—Human Biology** in cooperation with the Department of Physical Education). Professors CRAMPTON and GREGORY and Dr. ALSOP. 2 points.

**C<sub>1</sub>**—Winter session only: Tu. and Th. at 11.

**C<sub>2</sub>**—Spring session only: W. and F. at 1.

Either **C<sub>1</sub>** or **C<sub>2</sub>** is prescribed for juniors, but may under special circumstances be postponed to the senior year.

General anatomy, physiology and development of the human type in comparison with other organisms; the physiological basis of individual hygiene; human genetics.

**1-2—General Biology and General Zoölogy.** Elementary course. Professors CRAMPTON and GREGORY, Mrs. LOWTHER. 2 lectures, 4 hours of laboratory work. 8 points.

Tu. at 2 and Th. at 1. Laboratory work, Tu., 3-5 and Th., 2-4, or W. and F., 1-4, and possibly also Tu. and Th. 9-12.

Open to sophomores, juniors, and seniors.

**5-6—Heridity and Evolution.** Professor CRAMPTON. 2 lectures and conferences. 4 points.

M. and W. at 3.

Prerequisite, Course 1-2.

**13** (old numbers 3 and 53)—**Histology and histological methods.** Mrs. LOWTHER and \_\_\_\_\_. 2 lectures, 6 hours of conferences and laboratory work. 4 points.

W. and F. at 11. Laboratory hours to be arranged.

Prerequisite, Course 1-2.

**14** (old numbers 4 and 54)—**Embryology and embryological methods.** Professor CRAMPTON, Mrs. LOWTHER and \_\_\_\_\_. 2 lectures, 6 hours of conferences and laboratory work. 4 points.

W. and F. at 11. Laboratory hours to be arranged.

Prerequisite, Course 1-2.

**101, 102—General Zoölogy.** Advanced course. Professors CRAMPTON, and GREGORY, Mrs. LOWTHER and \_\_\_\_\_. 3 lectures and conferences, 6 hours of laboratory work. 12 points.

M., W. and F., 9-12.

Prerequisite, Courses 1-2 and 14.

**151-152—General Physiology.** General principles of animal physiology. Professor GREGORY. 2 lectures, 4 hours of demonstration and laboratory work. 8 points.

Tu. and Th., 9-12.

Open to juniors and seniors.

Prerequisite, Course 1-2, or its equivalent, and elementary chemistry.

## SCHEME OF

HOURS	MONDAY	TUESDAY	WEDNESDAY
9	*Architecture 41, 42 Chemistry 41-42 Chemistry 42a Economics A1-A2 (I) †Education A1 English A1, A2 (IV, V) English X2 (I) French 1a-2a (I) French 3, 4 (III) Geography 1, 2 German 5, 6 (I) History A1-A2 (I) Latin 3 Latin 14 Latin 21, 22 Mathematics A1-A2 (I) Philosophy A (I, II) Philosophy 61-62 Physics 31, 32 Psychology A (I, II) Psychology 22 Spanish 1a-2a (II) Zoölogy 101, 102	*Architecture 23, 24 Botany 53-54 Economics A1-A2 (V) English A1, A2 (I) English 47, 48 French 1a-2a (I) French 1b, 2b (III) French 9, 10 (I) German 49, 50 History A1-A2 (IV) History 17, 18 Latin 11, 12 (II) Mathematics A1-A2 (V) Spanish 1b, 2b (II) Zoölogy 151-152	Chemistry 41-42 Chemistry 42a Economics A1-A2 (I) †Education A1 English A1, A2 (IV, V) English X2 (I) French 1a-2a (I) French 3, 4 (III) Geography 1, 2 German 5, 6 (I) History A1-A2 (I) Latin 3 Latin 14 Latin 21, 22 Mathematics A1-A2 (I) Philosophy A (I, II) Philosophy 61-62 Physics 31, 32 Psychology A (I, II) Psychology 22 Spanish 1a-2a (II) Zoölogy 101, 102
10	*Architecture 25, 26 Botany 51-52 Chemistry 63, 64 Economics A1-A2 (II, III) Economics 13-14 English A1, A2 (VI) English X1 (I) English X2 (II) English 19, 20 English 29, 30 French 3, 4 (V) French 5, 6 German 7, 8 Greek 11, 12 History A4-A5 History 9-10 History 19, 20 Mathematics A1-A2 (II, III) Mathematics 30 Mathematics 35 *Music 3-4 Philosophy 2 Psychology 21 Spanish 1b, 2b (I) Zoölogy 101, 102	Chemistry 5-6 Classical Civilization 57, 58 Economics A1-A2 (VI) Economics 111, 112 English A1, A2 (II) English 5, 6 English 15, 16 English 25, 26 (I) French 3, 4 (VI) Geology 10 German 9, 10 History A1-A2 (V) Latin 27, 28 Mathematics A1-A2 (VI) Mathematics 27 *Music 11, 12 Philosophy A (IV) Philosophy 79-80 Psychology A (III) Psychology 19, 20 Zoölogy 151-152	*Architecture 35, 36 Botany 51-52 Chemistry 63, 64 Economics A1-A2 (II, III) Economics 13-14 English A1, A2 (VI) English X1 (I) English X2 (II) English 19, 20 English 29, 30 French 3, 4 (V) French 5, 6 German 7, 8 Greek 11, 12 History A4-A5 History 9-10 History 19, 20 Mathematics A1-A2 (II, III) Mathematics 30 Mathematics 35 *Music 3-4 Philosophy 2 Spanish 1b, 2b (I) Zoölogy 101, 102
11	Economics A1-A2 (IV) Economics 1, 2 English A1, A2 (VII) English X1 (II) English 31, 32 English 33, 34 English 43, 44 French 1b, 2b (I) French 13, 14 German 1-2 German 5, 6 (II) Greek 21, 22 History A1-A2 (III) History 61, 62 *History 172 Mathematics A1-A2 (IV) Mathematics 21, 22 Mathematics 25-26 Philosophy A (III) Physics 11-12 Psychology A (IV) Psychology 7-8 Psychology 17-18 Spanish 1a-2a (I) Spanish 3, 4 Zoölogy 101, 102	*Architecture 21 *Architecture 34 Botany 153, 154 Chemistry 65, 66 Classical Civilization 55, 56 *Economics 105, 106 English A1, A2 (III) English A4 English 3, 4 English 46 French 9, 10 (II) French 9a, 10a Geology 1-2 German 3a, 4a German 37, 38 Greek 25, 26 Mathematics A1-A2 (VII) *Music 1-2 Philosophy 41 Philosophy 66 Physical Education A3 (I) Religion 1, 2 Zoölogy C1 Zoölogy 151-152	Economics A1-A2 (IV) Economics 1, 2 English A1, A2 (VII) English X1 (II) English 31, 32 English 33, 34 English 43, 44 French 1b, 2b (I) French 13, 14 German 1-2 German 5, 6 (II) Greek 21, 22 History A1-A2 (III) History 61, 62 *History 172 Mathematics A1-A2 (IV) Mathematics 21, 22 Mathematics 25-26 Philosophy A (III) Physical Education A4 (II) Physics 11-12 Psychology A (IV) Psychology 7-8 Spanish 1a-2a (I) Spanish 3, 4 Zoölogy 13, 14 Zoölogy 101, 102

Courses marked with an asterisk [ \* ] are given at Columbia University;

## ATTENDANCE

THURSDAY	FRIDAY	SATURDAY
<p>*Architecture 23, 24          Botany 53-54          Economics A1-A2 (V)          English A1, A2 (I)          English 47, 48          French 1a-2a (I)          French 1b, 2b (III)          French 9, 10 (I)          German 49, 50          History A1-A2 (IV)          History 17, 18          Latin 11, 12 (II)          Mathematics A1-A2 (V)          Spanish 1b, 2b (II)          Zoölogy 151-152</p>	<p>*Architecture 41, 42          Chemistry 41-42          Chemistry 42a          Economics A1-A2 (I)  <sup>†</sup>Education A (I)          English A1, A2 (IV, V)          English X2 (I)          French 1a-2a (I)          Geography 1, 2          German 5, 6 (I)          History A1-A2 (I)          History 7-8          Latin 3          Latin 14          Latin 21, 22          Mathematics A1-A2 (I)          Philosophy A (I, II)          Philosophy 61-62          Physics 31, 32          Psychology A (I, II)          Psychology 22          Spanish 1a-2a (II)          Zoölogy 101, 102</p>	<p>Economics A1-A2 (V)          English A1, A2 (I)          French 1b, 2b (III)          History A1-A2 (IV)          Latin 11, 12 (II)          Mathematics A1-A2 (V)          Spanish 1b, 2b (II)</p>
<p>Chemistry 5-6          Classical Civilization 57, 58          Economics A1-A2 (VI)          Economics 111, 112          English A1, A2 (II)          English 5, 6          English 15, 16          English 25, 26 (I)          Geology 10          German 9, 10          History A1-A2 (V)          Latin 27, 28          Mathematics A1-A2 (VI)          Mathematics 27  <sup>*</sup>Music 11, 12          Philosophy A (IV)          Philosophy 79-80          Psychology A (III)          Psychology 19, 20          Zoölogy 151-152</p>	<p>Architecture 25, 26          Botany 51-52          Chemistry 63, 64          Economics A1-A2 (II, III)          Economics 13-14          English A1, A2 (VI)          English X1 (I)          English X2 (II)          French 5, 6          German 7, 8          Greek 11, 12          History A4-A5          History 9-10          History 19, 20          Mathematics A1-A2 (II, III)          Mathematics 30          Mathematics 35          Philosophy 2          Spanish 1b, 2b (I)          Zoölogy 101, 102</p>	<p>Chemistry 5-6          Economics A1-A2 (VI)          English A1, A2 (II)          English 25, 26 (I)          French 3, 4 (VI)          History A1-A2 (V)          Mathematics A1-A2 (VI)          Mathematics 27          Philosophy A (IV)          Psychology A (III)</p>
<p>*Architecture 21  <sup>*</sup>Architecture 32          Botany 153, 154          Classical Civilization 55, 56  <sup>*</sup>Economics 105, 106          English A1, A2 (III)          English A4          English 3, 4          English 46          French 9, 10 (II)          French 9a, 10a          Geology 1-2          German 3a, 4a          German 37, 38          Greek 25, 26          Mathematics A1-A2 (VII)  <sup>*</sup>Music 1-2          Philosophy 41          Philosophy 66          Religion 1, 2          Zoölogy C1          Zoölogy 151-152</p>	<p>Economics A1-A2 (IV)          Economics 1, 2          English A1, A2 (VII)          English X1 (II)          English 33, 34          English 43, 44          French 1b, 2b (I)          French 13, 14          German 1-2          German 5, 6 (II)          Greek 21, 22          History A1-A2 (III)          History 61, 62          Mathematics A1-A2 (IV)          Mathematics 21, 22          Mathematics 25-26          Philosophy A (III)          Physics 11-12          Psychology A (IV)          Psychology 7-8          Spanish 1a-2a (I)          Spanish 3, 4          Zoölogy 13, 14          Zoölogy 101, 102</p>	<p>English A1, A2 (III)          English A4          English 3, 4          Mathematics A1-A2 (VII)</p>

those marked with a dagger [†] are given at Teachers College.

## SCHEME OF

HOURS	MONDAY	TUESDAY	WEDNESDAY
1.10 P.M.	Anthropology 1, 2 Chemistry 105-106 Classical Civilization 51, 52 Economics A4-A5 *Economics 101-102 English X2 (III) English 13, 14 English 25, 26 (II) English 53-54 French 1b, 2b (II) French 3, 4 (IV) French 15, 16 French 19, 20 German 3, 4 German 25, 26 Government 12 History A1-A2 (II) Italian 1a-2a Latin 11, 12 (I) *Music 7, 8 Philosophy 21-22 Physics 35, 36		Anthropology 1, 2 Chemistry 105-106 Classical Civilization 51, 52 Economics A4-A5 *Economics 101-102 English X2 (III) English 13, 14 English 25, 26 (II) English 53-54 French 1b, 2b (II) French 3, 4 (IV) French 15, 16 French 19, 20 German 3, 4 German 25, 26 Government 12 History A1-A2 (II) Italian 1a, 2a Latin 11, 12 (I) *Music 7, 8 Philosophy 21-22 Physics 35, 36 Zoölogy C2
2.10	†Education 281 English X1 (III) English X2 (IV) English 27, 28 English 41, 42 French 1a-2a (II) French 11, 12 (I) French 17, 18 Government 1, 2 Greek 1-2 Latin 1-2 Mathematics A4-A5 Mathematics 23-24 *Music 9-10	Astronomy 1, 2 Classical Civilization 53, 54 French 1a-2a (II) Greek 1-2 History 13, 14 History 51, 52 *History 153, 154 Latin 1-2 Religion 7 Science of Language 1, 2 Zoölogy 1-2	†Education 281 English X1 (III) English X2 (IV) English 27, 28 English 41, 42 French 1a-2a (II) French 11, 12 (I) French 17, 18 Government 1, 2 Greek 1-2 Latin 1-2 Mathematics A4-A5 Mathematics 23-24 *Music 9-10
3.10	†Education B English A1 (VIII) English X1 (IV) *French 113-114 History 71, 72 Zoölogy 5-6	French 11, 12 (II) History 81, 82 Latin 41, 42	*Architecture 41, 42 †Education B English A1 (VIII) English X1 (IV) *French 113-114 History 71, 72 Latin 17-18 Zoölogy 5-6
4.10	†Mathematics 351	Botany 151-152 English 1, 2 (4-5.50) English 7, 8 (4-5.50) *Government 105, 106	†Mathematics 351

Courses marked with an asterisk [\*] are given at Columbia University;

## ATTENDANCE

	THURSDAY	FRIDAY	SATURDAY
	Astronomy 1, 2 French 3, 4 (I) Physical Education A3 (II) Zoölogy 1-2	Anthropology 1, 2 Chemistry 5-6 Chemistry 105-106 Classical Civilization 51, 52 Economics A4-A5 English X2 (III) English 13, 14 English 25, 26 (II) English 53-54 French 1b, 2b (II) French 15, 16 German 3, 4 Government 12 History A1-A2 (II) Italian 1a-2a Latin 11, 12 (1) *Music 7, 8 Philosophy 21-22 Physical Education A4 (I) Physics 11-12 Physics 35, 36 Zoölogy C2	
	Classical Civilization 53, 54 French 1a-2a (II) Greek 1-2 History 13, 14 History 51, 52 *History 153, 154 Latin 1-2 Religion 7 Science of Language 1, 2	English X1 (III) English X2 (IV) English 27, 28 English 41, 42 French 1a-2a(II) French 17, 18 Government 1, 2 Greek 1-2 Latin 1-2 Mathematics A4-A5 Mathematics 23-24 *Music 9-10 Physics 11-12	
	Botany 55-56 French 3, 4 (II) French 11, 12 (II) History 81, 82 Latin 41, 42	†Education B English A1 (VIII) English X1 (IV) *French 113-114 History 71, 72	
	Botany 151-152 *Government 105, 106	†Education 283 †Education 284	

those marked with a dagger [†] are given at Teachers College.

## ACADEMIC CALENDAR

1921-1922

### 1921

July 5—Tuesday, Twenty-second Summer Session of Columbia University begins.

Aug. 12—Friday, Twenty-second Summer Session of Columbia University ends.

Sept. 12—Monday, Last day for filing applications for entrance and deficiency examinations, and for advanced standing. The privilege of later application may be granted on payment of a fee of \$6.

Sept. 19—Monday, Entrance examinations and examinations for deficient students begin.

Sept. 23—Friday, Registration (including the payment of fees) begins.

Sept. 27—Tuesday, Registration ceases for students previously matriculated. The privilege of later registration may be granted on payment of a fee of \$6.

Sept. 28—Wednesday, Winter Session, 33rd year, begins. Registration ceases for students matriculating for the first time. The privilege of later registration may be granted on payment of a fee of \$6.

Sept. 29—Thursday, Classes begin.

Oct. 18—Tuesday, Stated meeting of University Council.

Nov. 8—Tuesday, Election Day, holiday.

Nov. 22—Tuesday, Annual Thanksgiving Service in St. Paul's Chapel.

Nov. 24—Thursday,  
to  
Nov. 26—Saturday, inclusive, Thanksgiving holidays.

Dec. 20—Tuesday, Stated meeting of University Council.

Dec. 21—Wednesday  
to

### 1922

Jan. 3—Tuesday, inclusive, Christmas holidays.

Jan. 8—Sunday. Annual Commemoration Service in St. Paul's Chapel.

Jan. 12—Thursday, Last day for filing applications for January entrance examinations and for admission to advanced standing. The privilege of later application may be granted on payment of a fee of \$6.

Jan. 19—Thursday, January entrance examinations begin.

Jan. 25—Wednesday, Mid-year examinations begin.

Feb. 4—Saturday, Registration (including the payment of fees) begins.

Feb. 7—Tuesday, Winter Session ends.  
Registration ceases for students entering the Spring Session. The privilege of later registration may be granted on payment of a fee of \$6.

Feb. 8—Wednesday, Spring Session begins. Classes begin.

Feb. 21—Tuesday, Stated meeting of University Council.

Feb. 22—Wednesday, Washington's Birthday, holiday.

Apr. 1— Thursday, Last day for filing applications for non-competitive scholarships.

Apr. 13— Thursday,  
to

Apr. 17— Monday, inclusive, Easter holidays.

Apr. 18— Tuesday, Stated meeting of University Council.

May 22— Monday, Final examinations begin.

May 30— Tuesday, Memorial Day, holiday.

June 4— Sunday, Baccalaureate service.

June 7— Wednesday, Commencement Day.

June 14— Wednesday, Spring Session ends.

June 19— Monday, Examinations of the College Entrance Examination Board begin. The dates for filing applications are contained in a circular issued by the Board, 431 West 117th Street, New York, N. Y.

July 10— Monday, Twenty-third Summer Session of Columbia University begins.

Aug. 18— Friday, Twenty-third Summer Session of Columbia University ends.

Sept. 11— Monday, Last day for filing applications for entrance or deficiency examinations, and for advanced standing. The privilege of later application may be granted on payment of a fee of \$6.

Sept. 18— Monday, Entrance examinations and examinations for deficient students begin.

Sept. 22— Friday, Registration (including the payment of fees) begins.

Sept. 26— Tuesday, Registration ceases for students previously matriculated. The privilege of later registration may be granted on payment of a fee of \$6.

Sept. 27— Wednesday, Winter Session, 34th year, begins.  
Registration ceases for students matriculating for the first time. The privilege of later registration may be granted on payment of a fee of \$6.

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